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Agricultural.

Permanent Pastures.

Until our farmers are all educated up to the point of stall-feeding their stock in summer, either with ensilage or green crops grown for them, there must be a demand for permanent pastures. And there are many fields that could not be fitted for anything but pasture, unless at too great a cost for removing rocks and adding to the fertility of the soil. We have seen many articles recommending the improvement of all such fields, and have known it tried on some, but we were not satisfied with the demonstration that it was profitable to the owner.

The pasture has always one advantage. The stock turned there do their own harvesting, which saves the labor of cutting green crops and taking them to the barn, and if there are some seasons, or parts of every season, when the grass in the pasture proves insufficient, we can better afford to have the green crops or ensilage at such times than to give up the pastures and depend upon cultivated crops entirely.

But there is no reason why many of these pastures should not be improved so that they will produce more, but also produce a greater variety of grasses so that the feeding season can be prolonged. Take up an acre or a few acres each year, clear it of bushes and such rocks as can be thrown out with the plow, if not of the larger ones, and add as much manure as can be spared or as much of good commercial fertilizer as the owner can afford. Then plant it to corn, which, used as green food in the summer, will more than make good the reduction of acreage in the pasture. If not all needed in that, there may be ensilage, corn fodder or even some good corn for winter use.

After one or two years in corn, and we would prefer the two years, it may be seeded to grass. If level culture is practiced for the corn, the grass seed may be sown among it at the last hoeing, as used to be a general custom, open to the objection of leaving the corn hills plainly visible in the grass. We have seen them in fields where the oldest inhabitant could not remember that corn had ever been grown. Another method is to plant corn one year and sow oats the next year, these oats to be taken off to allow seeding to grass without grain in August or later. If this is done the oats should have a manuring as well as the corn, and they will take less from the soil if they are cut as hay than if allowed to stand for the grain to ripen, and possibly the oat hay is worth more than the oat straw and grain.

The next question which usually comes up when talking reseeded and improving an old pasture, is what shall we sow in it. Many would unhesitatingly declare for timothy and redtop. They make a good pasture, especially on strong land, but we would prefer a mixture of more varieties. The tall oat grass makes earlier pasture than timothy, and is as permanent. It also has an abundance of foliage, and is much relished by stock of all kinds. We would not like to omit Kentucky blue grass from a pasture, as it is also early, endures the heat of summer and dry weather well, and is said to be one of the most nutritious of grasses. The sweet vernal grass, the perennial variety, should be put in if the pasture is used for dairy stock. It used to be claimed that the presence of this grass on the hillsides of Vermont gave their dairy butter its aroma and flavor. Certainly its fragrance is far superior to any other hay or grass. If to these grass seeds was added the next spring a few pounds of white clover seed, at least on the more moist portions, it would add to the value of the grazing.

We should prefer sowing the grass seeds about the latter part of August or early in September in this latitude without any grain crop with them. Sown thus the grass will get strong enough to endure the winter, unless water is allowed to stand on it. The weeds that come among it will be killed by the winter, and if enough of seed is put on they will be smothered out in the spring. The use of a liberal quantity of seed is important, and to try to save money by light seeding is poor economy, as it is to save labor by not well working the ground before the seed is sown. An old farmer, who used to get better crops of his light land than others did on much stronger land, used to say the secret was in using good seed and enough of it, and having a good, finely pulverized seedbed to put it on.

Another method that has been applied with success where the land was too stony or rough to be easily plowed and harrowed, has been to go over it with a disc or harrow, in August, and cut lengthwise, crosswise and diagonally until it would seem that all the grass is cut up, if the roots are not all

destroyed, then sow on the seed and go over with a light harrow or brush. If this is well done, there should be a catch of grass, and if one could afford to put on as much commercial fertilizer to the acre as does our correspondent, Mr. George M. Clark, he might decide to mow the field a few years before he took it as a pasture.

The pasturing of sheep a few seasons to kill out weeds, bushes and briars, often improves a pasture much, and perhaps Angora goats would be better, but we know nothing about them but what we read, and we are not sure of all that.

The seed mixture we have given above is intended to furnish good grazing early in the spring, in a dry or wet summer, and late in the fall.

Dairy Notes.

Not only have the experiment stations and dairy schools educated many young men up to the point where they can take good milk or good cream and make good butter of it,

due to calve in three months more. We attributed that to some bad handling when she was young, in wanting her feed and allowing her to go dry three months in the year, but it may have been constitutional or hereditary, as it is with some others, to keep on giving milk almost or quite up to the time of calving. Yet we think much depends upon the treatment of the heifer with her first calf. We would not allow her to drop her second calf until fifteen months after the first, if this was dropped at two years old or less, and we would try to keep her in milk for fourteen months of that time if possible, though we did not get two quarts a day from her. Shrinking in milk too rapidly after calving, and going dry too soon before the next calf is born, becomes a matter of habit, and, like other bad habits, is not easily cured.

Professor Haeker in the Dairy Record gives figures from the ordinary cow and the dairy-bred cow at the Minnesota Experiment Station for two years as follows: Common 6818 pounds of milk the first year and 6249 pounds the second year, an average of 6533 pounds and 287 pounds of butter a year. Butter and skim milk worth \$32 and cost of feed \$25, a profit of \$7. Remember that this is where hay and grain are cheaper than in New England, while the price of butter is nearly as high as wholesale prices here, for it cost much less to send 287 pounds of butter to our Eastern markets than to send two tons of hay, six months pasturing and the grain feed given. This is a good showing for the common cow, even under the hands of experienced feeders like those at the station.

But compare this with the dairy cow bred for butter making. The first year she yielded 8283 pounds of milk and 446 pounds of butter. The second year 8380 pounds of milk and 460 pounds of butter, an average of 8432 pounds of milk and 453 pounds of butter. Value of butter and skim milk \$79, cost of feed \$27, profit \$52, or \$25 more per year than the ordinary cow under equally good treatment, but requiring \$2 worth more of food. In these computations butter is reckoned at a uniform value of fifteen cents a pound and skim milk at fifteen cents per hundred pounds, and no allowance is made for a possible better quality of butter from the dairy-bred cow, though there might be if we could judge by our own experience.

Certainly the prices allowed for butter are not too high, and as to skim milk, we can but quote a test made by one farmer, who found one hundred pounds of grain fed alone to produce ten pounds of pork, one hundred pounds of skim milk to produce five pounds of pork, but when the two were mixed they produced eighteen pounds of pork, or one hundred pounds of skim milk gave as much pork as 44.8 pounds of grain. With corn at twenty-five cents a bushel, this would make the skim milk worth 19.6 cents per hundred pounds, and with corn at seventy cents a bushel, it would be worth about sixty cents per hundred pounds. This was on young pigs.

In a test at the Utah station they found that it required 147 days to make one hundred pounds of live weight on hogs fed skim milk alone, 110 days for those fed grain alone and seventy-nine days for those that had both milk and grain. It required 3.19 pounds of digestible matter to make a pound of gain on milk alone, 2.83 pounds on grain alone and 2.38 pounds on the two mixed. The milk in this case took the place of 23.2 pounds of grain for one hundred pounds of skim milk, or at present prices of grain here was worth nearly seventy cents per hundred pounds.

The proportion of one hundred pounds of skim milk to twenty-five pounds of grain has been found to be a fair average, though it might be increased for small pigs, and, in fact, should be in what they are given before being weaned, and probably for some weeks after, and it might be less where the grain was wheat bran or middlings than when it was largely cornmeal, unless the object was to fatten rapidly or finish up a well-fattened hog.

But high as this value may seem for skim milk, to those who sell whole milk to the contractors at a price not much higher, we think it worth even more as food or drink for the human race, as compared to other food prices, though we would suggest that it is more valuable when there is a proper proportion of other food with it, as is the case in feeding to swine. We would think skim milk cheap at \$1 per hundred pounds for table use.

The amount of protein in cotton seed meal makes it one of the cheapest foods the

and are selling at seventy-five cents per bushel from the farmers. Other pieces of early potatoes are attacked with blight. Late-planted potatoes are looking well where they are not drowned out. Pastures where the ground was not too wet have been good.

Hay, for the average, is a light crop, and but little has been secured, and most of that has been seriously damaged by the rain. Oats are looking fine, and if the wet weather and scalding sunshine do not make them rust, the yield promises to be a bountiful one. Apples are a very light crop and are dropping badly.

What the farmers have to sell brings good prices, but the excessive rain puts a damper on their prospects of securing their crops of hay and grain. Many of them have long faces and are feeling quite discontented and uneasy with the condition of affairs. Rain, cloud bursts and floods have done an immense amount of damage to highways and bridges, as well as farm lands. We are

largely claimed to be pure bred, they are certainly inferior stock. This is most marked by a comparison with the public sales of stock in the United States during the year 1900, as reported in the Breeders Gazette. There were 102 sales of short-horns, comprising 4045 animals. Seven lots sold at an average of less than \$100 per head, the lowest being \$82.45, thirty-five lots at between \$100 and \$200, twenty-three lots between \$200 and \$300, fourteen lots between \$300 and \$400, nine lots between \$400 and \$600, nine lots at \$600 to \$800 per head, one lot at \$883.90 and three lots exceeding \$1000, the highest priced being a lot of five at \$1216 each. Many of the lower priced lots were large in number, and included calves and yearlings.

Eleven lots of Angus, 894 animals, ranged from \$98.80 to \$479.55. Thirty-two lots of Herefords at from \$98.60 to \$680, and eight lots of Polled Durhams from \$124 to \$383.33. For the benefit of those curious in such matters, we will give the summary for each breed reported: 4045 Short-horns averaged \$290.91, 894 Angus averaged \$277.43, 1885 Herefords averaged \$246.80, 78 Red Polls averaged \$230.50, 243 Polled Durhams averaged \$216.34, 68 Galloways averaged \$307.37. It is evident that not many of those exported to Mexico came from these classes.

The introduction of breeding cattle into Mexico has heretofore been in the hands of private individuals, some of whom may have found it both profitable and easy to sell inferior animals as pure breeds, and to obtain much higher prices than they were valued at when entered for export or than they would be valued at anywhere. There should be some system of co-operation among the breeders that would enable them to bring buyer, seller and cattle together, that those who are willing to pay liberal or fair prices should know what they are getting.

It has been proposed to establish a market at Ciudad Juarez, in the province of Chihuahua, which is near the border line of the United States, and where hay and grain are comparatively cheap, and where the ranchman could easily visit and see the animals. This might be done under the patronage of the Government possibly. The Mexican government now allows pure-bred cattle to be admitted free of duty, even if not registered, upon presenting a proper certificate.

The counties of Chihuahua and Sonora, or the elevated portions thereof, are supposed to be free from Texas fever, and it might be desirable to establish a quarantine against that, or to prohibit cattle that were not immune to the fever. It would also be desirable that all literature of an advertising character should be printed in the Spanish language. Possibly there might be a gain if cattle were placed on exhibition at the principal fairs, though the railroad facilities are limited.

What the demand might be is shown by the facts as stated by our consultants in Mexico, that the largest cattle owner in Mexico has more than 3,000,000 acres of grazing lands. Another party has been trying to negotiate for more than 3,000,000 acres. A New York company holds 1,000,000 acres and a Nebraska company has 1,200,000 acres, which will be stocked with 15,000 common cows and 750 fine Hereford bulls. Ranches of 125,000 or more acres are frequent. There is some demand for Holstein stock for dairy business near the larger cities, and many of the Brown Swiss are imported from Switzerland. These breeds are liked as making good large beef when no longer fit for the dairy, and as giving liberal supplies of milk. There seems to be no reason why the sales of breeding stock from the United States should not amount in ten years to millions of dollars a year, instead of the \$140,119, which was the amount in 1900, if it is rightly managed.

There is also some demand for sheep, of which we exported to Mexico \$13,303 worth in 1900, and for hogs, of which we sent them that year 2005, at a total value of \$24,534, about \$12 per head, and they had 994 horses at a valuation of \$96,789, or nearly \$100 each. There would also be a good opening for Angora goats in some of the provinces.

Benefits of Thinning Fruit.

The benefits derived from thinning fruits may be briefly summarized as follows:

First—Thinning preserves the vitality of the tree by lessening the production of seed.

Second—Thinning, if systematically and persistently done, will cause the tree to bear crops more regularly. Off years are in most cases due to the fact that the trees are allowed to overbear one year, and during that year few, if any, fruit buds can be formed. Most kind of fruit trees cannot produce a large crop and mature fruit buds at the same time.

Third—Thinning lessens the loss occasioned by rot and other fungous diseases of the fruit by eliminating the danger of infection by contact. It also in a measure prevents the appearance and the spread of diseases by permitting better ventilation and drying of the fruit inside of the trees.

Fourth—Thinning will produce larger fruit.

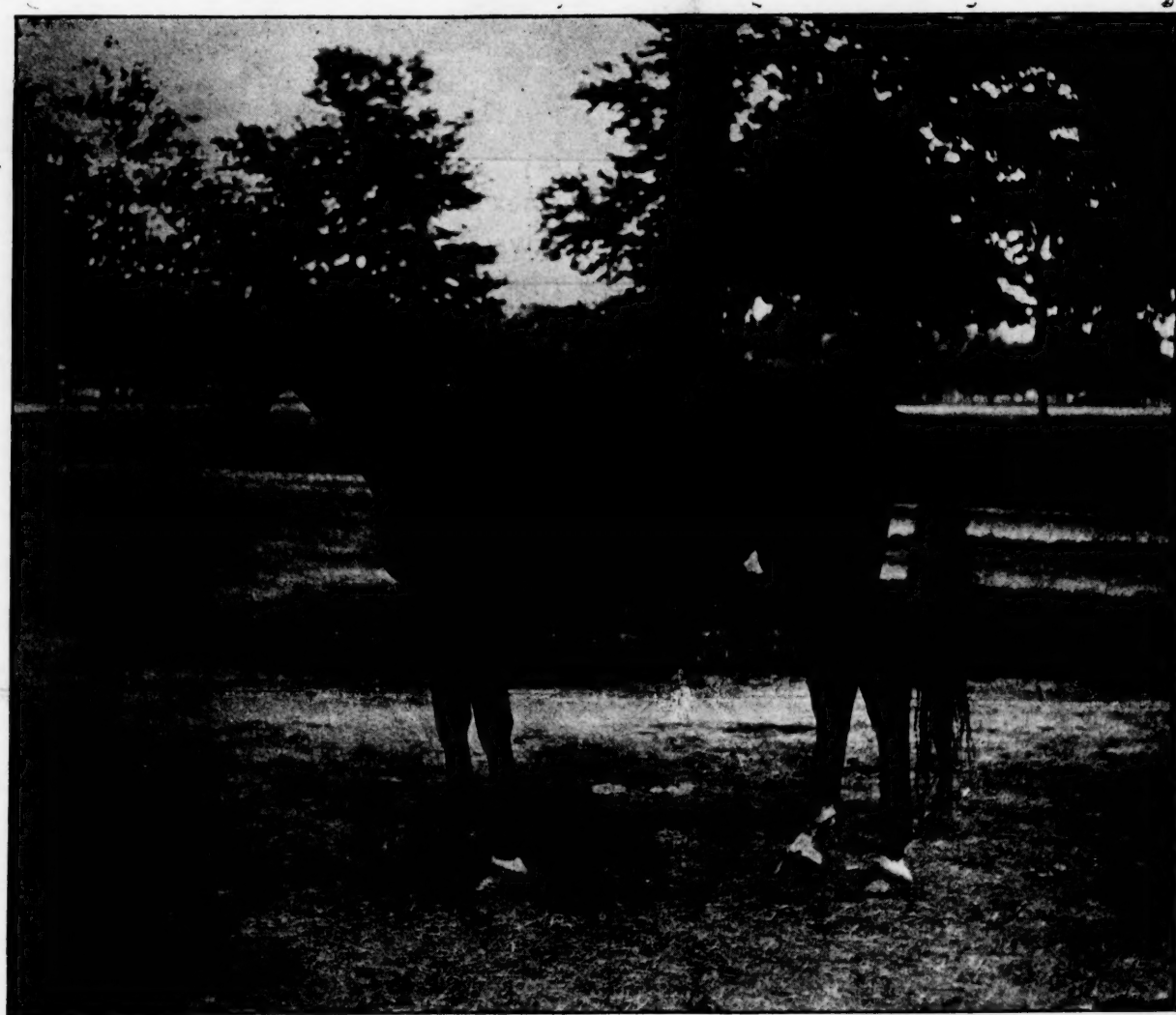
Fifth—Thinning will produce a better colored fruit by admitting more sunlight into the trees.

Sixth—Thinning tends to ripen the fruit more uniformly.

Seventh—Thinning will produce a more salable and higher-priced fruit, by reason of the increase in size, higher color and general appearance.

Eighth—Thinning will preserve the shape of the tree and prevent the breaking of overloaded branches.—Maryland Experiment Station Bulletin No. 82.

The wonderful two-year-old filly Miss Todd is at the Readville track again after a three weeks vacation at grass.



LORD DERBY, 2.06 1-2.

uniform in quality and flavor, but they have also taught many of them how to detect and reject such as will not make good butter, but if added to the other will injure the good milk put with it. Some of them are so expert that they can decide very quickly, when they find such milk, what may have been the cause of the trouble, an odor, flavor, or other causes which render it unfit for butter making. It has offended some farmers to have their milk rejected, but when the cause and the remedy is pointed out they are usually grateful for the information. Nor is this all the work in practical dairy education that has resulted from these sources. They have taught the owners or patrons of the creameries that it is better to employ such men as managers than those who had learned enough about engineering to run the steam outfit, but really had not learned anything about butter making, or the handling of milk, cream or butter. That class of men would do to work in a sawmill, or possibly a cider-mill, but they are not cheese factories. We read of one of them, a short time ago, who had managed a creamery for two seasons, just long enough to realize his own deficiency. He spent a winter at a dairy school, and the next season demanded and received about twice the salary he had before, and the improvement in quality of the butter proved him to be worth it. This change in the methods has made it possible for the dealer to have carloads of butter so uniform that one tub may be taken as a sample of the whole.

When one gets a cow that makes a phenomenal record for a week, he should not figure that her record for the year will be fifty-two times that amount. The year's record may not even equal that of some which fail to give as much in seven days, whether it is based on production of milk or of butter fat. No horseman expects the champion trotter or pacer to go an hour at his record speed, or to make as many miles in a day at moderate speed, as a horse that has less speed, but better endurance. If we remember rightly, the first horse to go twenty miles in an hour could not be driven a mile in less than 2.40, which was thought a good speed then, but he had the ability to take a steady pace and maintain it for sixty minutes. Just so with cows. We have had one that would give twenty-four quarts a day when fresh, but no fool that would give her could keep her above half that amount up to six months after the calf was dropped, and nine months after that event it was not easy to get enough to pay for the milking, if she was

Southern dairyman can use for his milk cows, and it may be at present prices cheap for dairymen in the Northern States, but its excessive use is certainly dangerous. It causes a danger of barrenness or impotency in the males of the herd, and abortion in the cows, and derangement of the bowels in all. The amount of protein in it is said to be more than four times as much as in cornmeal, three times that in wheat bran or shorts, and twice that of pea meal or malt sprouts. While few full-grown cows can bear more than three quarts a day, there may be some that will bear more, and we have felt that a safe limit was to make it about one-fifth of the entire grain ration, where the rough fodder was good, possibly increasing to one-fourth if hay or corn stover was poor.

We should feed less when the cow was well along with calf, and possibly it might be safe to feed more in winter than in summer, though we preferred to increase the corn meal in winter as a heat-producing food, as we never had any trouble when it was used in proportion of one quart of corn meal to two quarts of bran or shorts. The old rule of giving one pound of grain per day for each one hundred pounds of the cow's weight we did not like, because it made no allowance for the milk she gave, nor do we like much better a later rule that has been sent out, of one pound a day for each pound of butter made, as it does not take into consideration the condition of her flesh. They may help one who has never fed milk stock, but when we have had a lean cow we tried to bring her to eat two quarts of corn meal to one of bran, instead of the reverse proportions, as was our usual custom. We tried to furnish fat making food that she might put some fat on her ribs, and have some also to make fat in the milk. When this was done, unless she was intended for the butcher as soon as dry, we tried to balance the ration a little better for milk production. Then, too, by the use of more clover or early-cut fine hay, we tried to improve milk production, and still retain the fat we had made.

The spring was wet and cold, thus delaying the sowing of grain, the planting of corn and potatoes. There has been so much rain since that farmers have had but few days when the ground was dry enough for cultivation. The grass and weeds have had an almost undisturbed opportunity to grow. Corn is small and backward, but has improved rapidly during the past few days. Some of the early potatoes are yielding well

hoping for better weather soon, and shall endeavor to make the best of it as it is, for perhaps even this is better than severe and protracted drought.

J. D. F. WOOLSON.
Cortland, N. Y., July 28.

Live Stock Notes.

The fact that wool seems to be advancing in price, and the demand for domestic wool increasing, does not warrant holding wool until next winter before selling. The prices now are good and have been a little stimulated by a good demand for woolen goods, and we think by exaggerated reports of the loss of sheep in Australasia. These losses, great as they are, may be nearly or quite made up by the natural increase of one or two good seasons. It is usually better to sell when the market price is such as to yield a fair profit on cost of production. Both Australia and Argentina have been making efforts to increase the size of their flocks and the amount of wool production by importing the best rams they can buy in England or America, and the wool crop of Australia comes in at the beginning of our winter, and may be sufficient to force prices down here and in London.

There is a considerable market now for pure-bred cattle in Mexico, and our Agricultural Department thinks by proper care it could be largely increased. Previous to the changes in the tariff in July, 1897, there were sometimes as many as four hundred thousand cattle sent into the United States yearly from Mexico, either for pasturing or feeding here. The tariff of \$3.75 per head on cattle worth \$14, or less, cut this down to about one hundred thousand a year. They have found that to make exporting profitable they must grow better stock, and to do that they must have better animals to breed from, fit to sell either in the United States or England.

The Treasury Department sent out a report of the cattle exported to Mexico from 1903 to 1900, inclusive, and their average valuation. What the Mexicans want mostly are the beef breeds that they can fatten for an English market, or sell readily as feeders in the United States. In 1893 they imported from the United States 663 cattle, average value \$57.80; 1894, 2150 cattle, average value \$16.31; 1895, 887 cattle, average value \$39; 1896, 861 cattle, average value \$33.03; 1897, 701 cattle, average value \$52.57; 1898, 2500 cattle, average value \$37.76; 1899, 3236 cattle, average value \$42.70; 1900, 3201 cattle, average value \$43.47.

The low range of prices gives color to the statement that, while these animals are mostly sold for breeding purposes, and

Agricultural.

About Small Orchards.

It is almost as difficult and expensive to care for five acres of orchard trees as it is for ten, and it is misplaced energy to attempt to plant orchards too small to occupy one's full time. As a good deal of modern orcharding expense consists in the labor of spraying and fighting insects, it will pay better to have an orchard large enough to warrant one in purchasing the necessary apparatus to spray properly. A large orchard also tends to protect itself from the winds, and in winter and summer there may be a considerable saving from this. The trees on the outside nearly always produce less than those inside.

If one is going to have an apple or other fruit orchard, it is just as well to have a fine one as an ordinary kind. The latter will not cost much more in the end, and it will prove profitable, while the former will not. Plant trees of well-known marketable varieties, and get good specimens from reliable dealers. Spray them every season and protect them from pests of all kinds. Do not let them injure themselves by bearing heavily the first few years. Pluck off the blossoms or fruits, so that no limb or branch will be strained. Overproduction at an early age is deadly to a good tree. Each year set out new trees in the place of any that may be injured or killed. Do not have a ragged orchard, but try to make every tree come up to the standard. This can be easily done if one has ordinary intelligence, and will give the time to the work. Use only hooded crops in the apple orchard. Wheat, oats and timothy are bad for the trees. They take too much from the soil, but hooded crops, seeding the land to clover or cowpeas every few years, will produce excellent results.

M. T. WARD.

Butter Market.

An increase in the receipts of butter here, and a decline of one cent a pound at Chicago and Elgin, has weakened rates in Boston, and it is not easy to get over 21 cents for best Northern creamery, or over 21 for Western, while good firsts sell at 20 to 20 1/2 cents and but little Eastern above those figures. Extra dairy is 20 cents for Vermont and 19 cents for New York. Firsts, 18 to 19 cents. But little doing in imitation creamery or lardies at 17 to 18 cents. Renovated in fair demand at 17 to 19 cents. Extra Northern creamery in boxes and prints in moderate demand at 21 cents, dairy at 20 cents, fair to good 18 to 19 cents. Jobbers' rates about two cents a pound higher than these quotations.

The receipts of butter at Boston for the week ending July 26 were 24,543 tubs and 31,256 boxes, a total weight of 1,809,285 pounds, against 2,014,067 pounds the previous week and 1,355,201 pounds for corresponding week last year. This shows a slight falling-off from the week previous, but a material decrease as compared with last year.

There were 2240 pounds of butter exported from Boston last week. For the corresponding week last year there were no exports. From New York 250 packages were exported, the first lot for several weeks. From Montreal 29,505 packages were exported, against 23,381 packages corresponding week last year.

The Quincy Market Cold Storage Company reports a stock of 180,414 tubs, against 179,341 tubs same time last year, and the Eastern Company reports 34,215 tubs, against 27,084 tubs a year ago. These two holdings foot up a total of 214,629 tubs as compared with 206,425 tubs same time last year, an increase in favor of this year of 8204 tubs.

Vegetables in Boston Market.

The market is well supplied with vegetables, but the prices are favorable to farmers. We might say they were satisfactory, but there are some farmers who will not own that they are satisfied. If crops are good prices are too low, and if prices are high crops must be light. But we think they are as contented this year as we usually find them. Beets are selling at 40 to 50 cents a box, and carrots at 75 to 80 cents, or 82 per hundred bunches. New parsnips are in, and offering at 75 cents a hundred. Flat turnips 60 to 75 cents a bushel, and 150 to 200 to a hundred bunches. Yellow at 125 to 150 a barrel. Native onions are higher at 90 cents a box, Southern at 75 to 90 cents, New Orleans at 80 cents, and Kentucky 82 to 85 a barrel. Leeks are 50 cents a dozen bunches and chives \$1. Radishes 40 to 50 cents a box and celery 150 to 175 a dozen. Native cucumbers, No. 1 at 82 to 85 a box, No. 2 at 75 to 80 cents. Peppers 125 to 150 a crate. Hothouse tomatoes 10 to 15 cents a pound and Jersey 60 to 75 cents a crate. Some Southern at 40 to 75 cents a carrier. Marrow squash at \$1 for good and \$1.50 for fancy per barrel; white at \$1 per barrel crate. Rhubarb is 3 cents a pound and good mushrooms from \$1.25 to \$1.50.

Native cabbages in good supply at 82 to 85 per hundred. Cauliflowers \$1.25 a bushel box. Spinach is higher at 40 to 50 cents a box and lettuce 25 to 30 cents for bushel boxes. Beet greens nearly gone, though a few sell at 35 cents, and parsley at 20 to 25 cents a box, with romaine at 25 cents. String beans in full supply at 50 cents to \$1. Green peas plenty at 75 cents to \$1 and green corn the same per box.

Potatoes are a little lower, Rose and Hebron, native or Rhode Island, from \$1.50 to \$1.65 a barrel, and Southern \$1 to \$1.25. North Carolina sweets coming slowly and not of first quality. Yellows from \$3.75 to \$4.50 and red \$2.50 to \$3, with not many at top prices.

The Hay Trade.

There have been a few arrivals of new hay, but not enough to affect prices on prime old hay, and the latter is firmer than last week, although the receipts have averaged better than last week or for several weeks previous. It seems as if farmers who have been selling but poor hay and keeping their best for home use are now finding that they have a surplus.

Boston did not get much of this surplus, and only 473 cars were received, of which 243 were billed, and 13 cars of straw. Corresponding week last year, 257 cars of hay, of which 79 were for export, and 10 cars of straw. Choice timothy sold at \$18.50 to \$19.50 in large bales and \$16 to \$17 in small. No. 1 in good demand at \$17 to \$18 in large bales and \$16 to \$17 in small. No. 2, \$14 to \$15; No. 3, clover mixed and clover dull at \$11 to \$12. Rye straw is dull and less long rye, only being \$16 to \$16.50, tangled rye at \$11 to \$12 and oat straw \$9.50 to \$12.50.

New York receipts were light and prime timothy is hard to find. Only 7436 tons came in last week and 400 tons of straw, while 34,183 bales of hay were exported. As but little prime timothy was received, the price went up to \$19 or \$20 per ton, the latter being paid for some large bales, and No.

1 sold at \$18 to \$18.50 and No. 2 at \$16.50 to \$17. No. 3 was dull at \$14.50 to \$15, clover mixed at \$13 to \$15 and clover at \$12 to \$13. Long rye straw is \$14 to \$15 and oat straw \$9 to \$10. Brooklyn at same rates as New York, and Jersey City a little higher for best grades, of which the supply is much less than the buyers want.

The Hay Trade Journal gives us highest market prices at various markets, \$21 at Jersey City, \$20 at New York and Brooklyn, \$19 at Boston, Philadelphia and Pittsburg, \$17.50 at Chicago, Baltimore and New Orleans, \$17 at Richmond, \$16 at Nashville, \$15.50 at Cincinnati, \$14.50 at Memphis and Cleveland, \$13 at Duluth and \$12.50 at Minneapolis.

The Montreal Trade Bulletin says that the hay crop will not be as heavy as last year in the provinces, as it is very uneven, but there will be less clover on it and more timothy. English markets may not be as good, as crop there is proving better than last year, but the demand for South Africa has not fallen off as it was expected to, and prices are still well maintained.

Domestic and Foreign Fruit.

Hand-picked apples are coming more freely, with only moderate demand. Red Astrachan are \$2 to \$2.50 a barrel, and some choice large Pippins bring \$2.50 to \$3. Sweet Bough are \$1.50 to \$2.50 and Sour Bough \$1 to \$2. Common green \$1 to \$1.50. Some natives from 60 cents to \$1 a box and Southern at 50 to 75 cents a basket. Le Conte pears \$4 to \$5 a barrel. Georgia peaches \$1.50 to \$2 a carrier for Elberta, \$1 to \$1.50 for Chinese Free and \$1.25 to \$1.75 for Belle and Thurber. Some Delaware grapes have come in at \$1.50 to \$2 a case. California cherries nearly done at \$1.25 to \$1.50 a case. Prunes at 75 cents to \$1.50 and plums at 75 cents to \$1.25. Nova Scotia strawberries sold at 12 to 20 cents a quart for last receipts. Blackberries are high at 10 to 15 cents a quart, blueberries, nearby, at 8 to 10 cents, and York State 6 to 8 cents. Red currants 6 to 9 cents for large, 4 to 6 cents for small. Raspberries 5 to 8 cents a pint, 3 cents a cup. Pineapples in good supply. Indian River, 24 or 30 counts, \$2.25 to \$2.50 a case, 36 counts \$2 to \$2.25, 42 counts \$1.75 to \$2 and 48 counts \$1.25 to \$1.50. Muskmelons in large supply. Norfolk \$1 to \$2 a barrel, Maryland 50 to 75 cents a basket, 75 cents to \$1.50 a crate. Watermelons dull, medium at \$18 to \$20 per hundred and small at \$12 to \$15.

Oranges in small supply, but trade is light. California late Valencia 150, 170 and 200 counts \$4.50, smaller fruit \$3.50 to \$4. Mediterranean sweets 170 and 200 counts \$3.50 to \$4, 250 counts \$3.25 to \$3.50. Sorrento 160 or 200 counts \$3.50 to \$4, 300 counts \$3.25 to \$3.50. Lemons in fair supply. Choice 300 counts \$2 to \$2.25 a box, fancy \$2.50 to \$3, 300 counts \$2.50 to \$3 for choice and \$3.50 to \$4 for fancy. Manoir choice \$3.50 to \$3.75, fancy \$4 to \$4.50.

New York Market.

Potatoes are in large supply, and they are weak even at the low quotations. Long Island are \$1.12 to \$1.25 a barrel, Jersey \$1 to \$1.25 and Southern 50 to 75 cents. North Carolina sweets \$2.50 to \$4 a barrel for yellow and \$2.50 to \$3.50 for red. Onions steady at \$2.25 to \$2.50 a barrel, \$1 to \$1.25 a bag for Kentucky. Long Island red \$2 to \$2.25 a barrel; Orange County red \$1 to \$1.50 a bag, and Connecticut \$2.25 for white, \$2 to \$2.25 for red, and \$2 for yellow. Beets are \$1 to \$1.50 per hundred bunches, and carrots 75 cents to \$1. Jersey celery is 10 to 40 cents a dozen roots, and Michigan 10 to 20 cents. Russia turnips 60 to 65 cents a barrel. Rhubarb \$1.50 to \$2.50 a hundred bunches, and radishes 50 cents to \$1. Jersey cucumbers 40 to 60 cents a box, and pickling \$1.25 to \$2.25 a thousand. White summer squash 25 to 50 cents a carrier, yellow 25 to 75 cents and Marrow 75 cents to \$1.

Cabbages are a little firmer as Southern supply has stopped. Flat Dutch are \$2.25 to \$3.00 per hundred. Jersey egg plants 75 cents to \$1 a box. Peppers 30 to 50 cents a box. Lettuce 50 cents to \$1.50 a case of five dozen. String beans plenty and a drag at 25 to 50 cents a box or basket. Lima beans from Maryland \$1.50 to \$2 a carrier. Green peas in light supply and firmer at 50 to 75 cents a bag or basket. Some fancy Jersey tomatoes sell at \$1 to \$1.50 a box, common at 75 cents to \$1. Southern 35 to 85 cents a carrier.

Apples in better supply, but with wide range as to quality. Hand-picked Sour Bough \$2.25 to \$2.50 a barrel, Sour Bough \$2 to \$2.25, Red Astrachan \$2 to \$2.50 and windfalls \$1.25 to \$1.75. Pears in pretty good supply, but too much cheap cooking stock. Good-sized Bartlett are \$3 to \$4 a barrel, Catherine \$3 to \$3.50, Bel, \$2.75 to \$3.25, Sooter \$1.75 to \$2, Southern Le Conte \$2 to \$3.50, and Keifer \$2 to \$2.25. Fences in liberal supply. Georgia, Elberta and Belle \$1.25 to \$1.50 a carrier, Thurber and Chinese Free \$1 to \$1.50, Stump \$1 to \$1.37, Mountain Rose and Crawford \$5 cents to \$1.25, some Carolina at 50 cents to \$1. Plums 15 to 20 cents for eight-pound baskets, or 3 to 6 cents a quart. Grapes in light receipt. Moore's Early from Georgia and Carolina Delaware \$1.25 to \$1.50 a case, Gooseberries 7 to 9 cents a quart for extra large, 4 to 6 cents for small and medium. Large blue huckleberries from Pennsylvania 7 to 9 cents, others 5 to 8 cents. Upriver blackberries 10 to 12 cents and Jersey 4 to 6 cents. Raspberries 4 to 8 cents a pint for red, 4 to 5 cents for blackcap. Muskmelons plenty, but vary in quality. Some Maryland 50 cents to \$1.50 a case, Carolina and Georgia 50 cents to \$1, Arizona and New Mexico standard crates \$1 to \$3.50, small crates \$1 Watermelons \$100 to \$175 a carload.

Communal Enterprises in England.

A recent consular report brings out interestingly how strong has become the tendency in Great Britain toward municipal socialism. Nine hundred and thirty-one British municipalities own their waterworks, ninety-nine their street railways, 181 supply electricity and 240 conduct gas works—so many, indeed, that about half the gas users in England consume municipal gas. In the United States, out of the 1500 cities and towns of over three thousand population, only 750 own their waterworks, two hundred own electric-lighting plants and twenty their gas works. To emphasize the discrepancy, Great Britain, in addition to owning the telegraph and planning to absorb the telephone lines, has municipalities that have shops and houses to rent, a municipal auditorium where theatrical and musical entertainments are given, a municipal rabbit warren, an oyster fishery, a sterilized milk establishment, a crematory, race courses, a hotel and a flagstone factory, all conducted by cities.

Liverpool controls utilities of more sweeping importance, however, than these. The docks are managed, not as in Bristol, where the city purchased them outright at a cost of between \$10,000,000 and \$15,000,000, but by a public trust, composed in the main of those who pay dock dues, which devotes all

profits to improvements. In this way the net earnings of the docks accrue to the city's advantage—a system which London is likely to adopt.

Liverpool, furthermore, owns the waterworks (one of the best systems in the world); it operates the street cars, it supplies the electric light and power; it has one of the largest and best public-bath systems anywhere and proposes to erect the finest Turkish bath in Europe; it provides public laundries for the poor districts; it furnishes flowers and plants for the windows in the slums; it sells sterilized milk for the children of the poor at cost price; it has a salaried organizer to play its famous municipal organ; it gives municipal lectures—and all these in addition to the usual undertakings of municipalities, such as parks with concert, technical schools, etc. But the greatest socialist undertaking by the Liverpool municipality is that of providing dwellings for the very poor, the dispossessed tenants of demolished insanitary dwellings of the slums.

Liverpool bought the street-car lines in 1897, and replaced horse cars with double-decked electric cars, and quickly developed one of the best tramway systems in Europe with a two-cent fare for any distance up to three miles, a four-cent fare for five and a quarter miles, and an eight-cent fare up to eight and a quarter miles. The working expenditure for last year was sixty-three per cent of the gross receipts of \$2,341,915; and the net profits went to the poor rates and into the reserve fund.

The experiment of furnishing municipal dwellings to the poor was carried out by compelling owners of insanitary slum dwellings to demolish them. Then, as the tenants were dispossessed, the city had in readiness for them blocks of three or four-story tenements. The work is still going on. One-room apartments in the tenements rent as low as forty-five cents a week; it costs from sixty to eighty cents for two rooms, and from \$1.25 to \$1.50 for four rooms, the largest provided. In a few dwellings hot water is supplied, and in others gas is paid for by the use of a "money-in-the-slot" machine. Under the law the city may include a garden with a house, the annual value of which shall not exceed \$15; and, when building a cottage, "it may fit up and supply the same with all requisite furniture, fittings and conveniences." Already \$1,925,000 has been paid by the municipality for demolished dwellings, \$33,825 for land and \$32,875 for construction. The rents are insufficient by about two per cent to meet even the cost of the dwellings; and the additional burden on the taxpayers has accordingly risen about three and one-quarter cents on every pound sterling.

It is maintained that the best governed towns, and those with the lowest taxes, are towns with such forms of municipal socialism as these; but this assertion is strongly controverted, and it is pointed out, among other evils, that municipal socialism paralyzes individual enterprise, although it is true that Liverpool was forced to attack the slum problem through the lethargy of private property owners.

Notes from Washington, D. C.

By a singular coincidence, Consul Robert S. S. Bergh at Gothenburg, Sweden, makes a report on a milk flour of which Dr. M. Ekenberg believes himself to be the original inventor, while the Scientific American in an illustrated article calls attention to the invention of Dr. Joseph H. Campbell of Pennsylvania for a similar article. Dr. Campbell's idea, however, seems to be about three years in advance of Dr. Ekenberg. The officials of the Department of Agriculture, as stated in previous correspondence, have known of a milk flour for some time, but this, nevertheless, does not detract from the excellent uses to which such an article can be placed.

The development of the dairy interests of this country has reached enormous proportions; the butter industry is largely being concentrated at the creameries, and in many cases skim milk has been a waste product, often being thrown away. With the cheap utilization of the skim milk so as to recover the non-fat solids in dry, soluble, sterilized condition, the powder product at half

the price of butter per pound would be more valuable than the butter interest itself, as the milk would yield but four pounds of butter to the hundred pounds of milk, while the non-fat solids would furnish 95 pounds of milk flour.

The proper office of powdered milk is not so much to act as a food by itself, but as a means of cheaply furnishing other foods with the proteins in which they are deficient, and thus restoring the balance which is essential to health. To bakers it is of special advantage, as the losses in the handling of fresh milk around the bakery are very great. Much is consumed by the men handling it, a great deal is wasted, and considerable is spoiled by being improperly cared for.

The question of securing a cheap milk powder is one fraught with great possibilities. Skim milk is a highly nutritious food. It contains all the nitro-nous or muscle-producing properties of whole milk, with simply the fat eliminated.

The first numbers of the Year Book of the Department of Agriculture for 1901 have just been distributed. The Year Book is a little smaller in size than last year's, but the number of articles it contains and the illustrations are greater. In accordance with the views of Secretary Wilson, the original articles contributed to the Year Book are mainly general in character, thoroughly representative of the work conducted by the department. The recent death of Hon. J. Sterling Morton, late Secretary of Agriculture, makes eminently appropriate the use of his picture as a frontispiece to this volume.

Under the direction of Dr. W. H. Wiley, chief of the bureau of chemistry of the Department of Agriculture, experiments are about to be commenced to determine whether the foreign substances added to food products in the nature of coloring matter or preservatives are detrimental to the health of man. This is in accordance with an appropriation made by Congress last session of \$10,000 for this work.

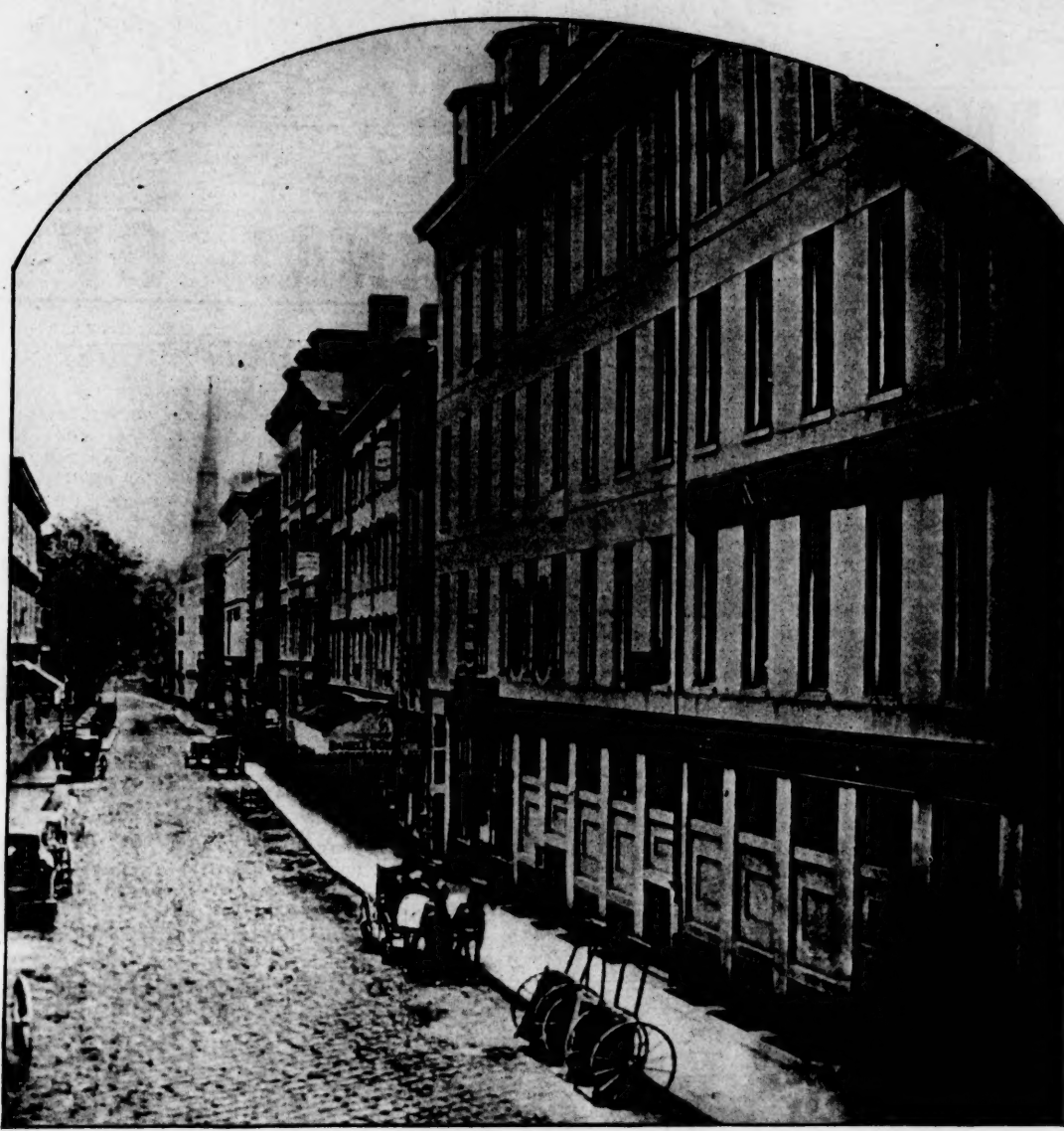
In carrying on these experiments, Dr. Wiley will establish a free board for a number of able-bodied men for the purpose of ascertaining the effect on them. These young men, of course, will be supposed to pledge their word not to eat anything but what the department will give them. At first they will be given regular meals of ordinary foods in order to get them into proper condition for the experiments, and then tests will be conducted with known preservatives, such as borax and other chemicals, and various coloring substances.

"The sole objects of these experiments," said Dr. Wiley, "is to get at the truth; there will be no bias in favor of or against any preservative or manufacturer of any particular line of goods. The best skill which physiological chemistry can supply will be brought to bear upon these investigations, and it is the intention to conduct the experiments on the human being as well as on animals."

"While conducting experiments with certain classes of foods, if any change or derangement of physiological functions is produced by their use by human beings, these will easily be made manifest. The same set of subjects will then be put back on ordinary foods, and notes will be made of how long it will take them to get back to normal condition."

Dr. Wiley believes that the result of these experiments will cause favorable action on the pure-food bill now pending in Congress.

Mr. R. A. Pearson, the assistant chief of the dairy division of the Department of Agriculture, has been spending some time in studying the dairy conditions of the West Indies. In the course of his travels he came across many things both unique and interesting. While in Santiago his attention was called to the manner in which milk is delivered there as well as in many other Spanish cities. One means is to have small boys carry ordinary beer bottles filled with milk from door to door; another is the conveyance of milk cans, packed saddle fashion, on the backs of donkeys, while the most primitive is the leading of the milk cow from door to door and drawing off the milk when wanted. In this case the calf accompanies



SUMMER STREET FROM WASHINGTON STREET, PREVIOUS TO THE GREAT FIRE OF 1872.

VIEWS OF OLD BOSTON.

the cow. Your Porto Rican dairyman believes he cannot milk a cow without the calf at hand to make her "give down."

A dairy of very late construction has been located on the very summit of San Juan hill, within but a stone's throw of the famous block house. In this dairy, milk-house and residence combined the dairyman keeps eight or nine cows; these are led every morning into the city of Santiago to be milked in front of the doors of the dairyman's patrons.

If there are a few old currant bushes around the place, or if it is possible to get some cuttings from Cherry, Fay's Prolific, or any good variety, they can be stuck into moist, sandy ground during August and good roots begun during the fall. Currants are very easily rooted, but this method will give plants a decided advantage over fall cutting, heeling and spring planting. New shoots should be taken just as the wood has begun to harden.

Pork and lard are still unchanged. Short cut and heavy backs \$23.50; long cut \$24, medium \$22.50, lean ends \$22, bean pork \$19.50 to \$20, fresh ribs 14 cents, corned and fresh shoulders 11 cents, smoked shoulders 12 cents, lamb 12 cents, in pairs 12 to 13 cents, hams 14 to 14 1/2 cents, skinned hams 13 cents, sausage 11 cents, Frankfurt sausage 11 cents, boiled hams 20 to 20 1/2 cents, bacon 15 to 16 cents, bologna 10 cents, pressed ham 14 cents, raw leaf 12 cents, rendered leaf 12 cents, in pairs 13 to 13 1/2 cents, pig tongues \$23.50, loose salt pork 12 cents, brisquets 13 cents, sausage meat 10 cents, country dressed hogs 9 cents.

The final estimate of the wheat crop of India for 1901-2 has just been given out. The yield is estimated at a little more than 6,000,000 tons of 2240 pounds, being 750,000 tons less than the previous year and about 500,000 tons less than the average for the preceding ten years. The estimated area is given at 23,300,000 acres, or 800,000 acres more than the previous year and 2,000,000 acres less than the average for the preceding ten years.

The total shipments of boots and shoes from Boston this week have been 82,235 cases, against 83,379 cases last week; corresponding period last year, 83,336. The total shipments thus far in 1902 have been 2,400,573 cases, against 2,714,000 cases in 1901.

Exports of dairy products from New York last week were 5000 boxes of cheese to Liverpool. The world's grain exports last week were reported as 5,312,269 bushels of wheat from five countries, and 4,226,011 bushels of corn from four countries. The United States sent 3,880,929 bushels of wheat and 75,611 bushels of corn.

The exports of live stock and dressed beef last week included 1427 cattle, 3708 quarters of beef from Boston; 1890 cattle, 33 sheep, 13,043 quarters of beef from New York; 945 cattle from Baltimore; 806 cattle, 650 sheep from Portland; 586 cattle from Newport News; 1813 cattle, 1195 sheep from Montreal; a total of 7099 cattle, 1890 sheep and 17,153 quarters of beef from all ports. Of this 2177 cattle, 919 sheep, 4788 quarters of beef went to London; 512 cattle, 600 sheep, 11,153 quarters of beef to Liverpool; 1039 cattle, 376 sheep to Glasgow; 451 cattle to Manchester; 1200 quarters of beef to Southampton; 35 sheep to Bermuda and West Indies.

The egg market is quiet, with a liberal supply of Western stock. Nearby and Cape fancy are in demand at 24 to 25 cents. Northern and Eastern choice fresh at 20 to 21 cents, fair to good at 18 to 19 cents. Some fancy Michigan bring 19 to 20 cents, but not many are above 18 cents, and Western dirty are dull at 14 to 15 cents. The stock in cold storage is being drawn on to a moderate extent. The stock on Monday was 180,899 cases, against 182,293 cases the previous week and 211,365 cases corresponding week last year.

OLD BOSTON.

The series of old Boston cuts now appearing in these columns have been kindly loaned by the publishers of the Boston Budget, and were taken from the Old Boston Number of that publication, June 1, 1902. Copies of this number can be had by sending 25 cents to the Ploughman office.

Literature.

The heroine of this book by Mrs. W. K. Clifford has for a father a man of aristocratic birth who secluded himself in an English town, where he married a widow, a thrifty countrywoman. Margaret, their daughter, soon found her half-sister, Hannah, the child of Mrs. Vincent by her first husband, a thorn in the flesh. Excessively religious in the narrower sense, Hannah had little sympathy with Margaret, who, like her father, went to church not at all. But the first visit of father and daughter to London did the mischief. Gerald Vincent was sufficiently weak to visit a woman, Mrs. Lakeman, to whom he had been engaged in his earlier days, and Margaret also met her, her daughter and an actress, a theatrical manager and Tom Carrington. Mrs. Lakeman is as unrelenting as her daughter Lena, who is desperate in love with Carrington. While Margaret's father is in Australia, visiting a dying brother who inherited a title, Margaret decides to enter upon a career as an actress, but she soon tires and plans to marry Carrington, when the scheming Mrs. Lakeman temporarily interferes in behalf of her daughter. Complications ensue, only to be straightened out. The plot is putty in the author's hands. But everybody is made happy at the end, even hard-shelled Hannah, who is softened after her mother's death, and who later falls in love with a convenient stranger. Ideal strong characters are scarce, yet what we have presented a rather pleasing picture of English life. The main thread of the story is never lost sight of by the reader, and once his interest is aroused he will peruse the book to the end. [New York: Harper & Brothers. Price, \$1.50.]

Mr. Leslie Stephen has contributed to the "English Men of Letters" series an eminently satisfactory life of George Eliot. He writes clearly and concisely from an unprejudiced point of view. It is pleasing to know that among all the coronation honors bestowed by King Edward VII. Mr. Stephen was knighted, although his place among eminent men of letters is secure without a title. In this latest biography of George Eliot, the method employed by the critical biographer is the deductive. The early life of Mary Evans (the name given her at birth) is briefly sketched, but the period of her development into womanhood is treated more at length. "Adam Bede" and "Mill on the Floss" furnish portraits of her home and surroundings. A chapter is devoted to each of her greatest works, and all are reviewed with constant reference to the author. George Eliot's great personality is especially evident in "Romola" and "Daniel Deronda." Writing of her heroines Mr. Stephen says: "The long gallery of heroines from Milly Barton to Gwendolen Harleth have various tasks set to them in which we may be more or less interested. But the women themselves have an interest unsurpassed by any other writer. They have a certain family likeness, and if Maggie in 'Mill on the Floss' is most like her creator, the others show an affinity to some of her characteristics." All those thoughtful readers will appreciate this gratifying work on the literary career of one of England's greatest writers. [New York: The Macmillan Company. Price, 75 cents.]

This is a historical romance of the days of the Vikings by Ottlie A. Liljencrants, richly illustrated in colors. Leif Ericsson and his exploits to Greenland and America is the theme of the story. Ericsson is ever an interesting character, as he represents the carrying of Christianity to his people, who have worshipped the might of Odin, and believed right was ever greatness and power. The plot is woven about the wild courtship of an English thral and Helga, kinswoman to Leif, the Lucky. The English thral, Alwin, was a nobleman in his own country, but he had fallen captive to a Viking, and was carried to Norway. Sold to Leif Ericsson, the latter found him of special value, inasmuch as Alwin could read and write. The chafing of Alwin in his bondage caused his hot temper to assert itself, with the result that he rushed into many daring deeds which won for him respect and friendship among the followers of Leif. Helga, called the "shield maiden," is represented as a beautiful girl who had been taught to ride and hunt with her kinsman, Leif. In this wild out-of-door life she seems less womanly than we at first wish, but later in the narrative she seems sweet and winsome in her long robes, employed in household duties. The character of Ericsson, who has been converted to Christianity, is made strong and sturdy by the writer, who evidently possesses a warm place in his heart for the Vikings, of whom she writes so sympathetically. The great untutored Viking leader slowly learns the great principles of Christianity living among men of wild freedom, and his career has been the subject of careful study. The interest in the narrative is never permitted to lag, and at the close the lovers who have risked their lives for sweet love's sake are made happy. Throughout the plot there appears at times a wavering of purpose, but in the historical setting and sympathetic treatment lies the charm of the story. Readers who have wearied of historical novels will yet find pleasure in the tale of "The Thral of Leif, the Lucky." [Chicago: A. C. McClurg & Co. Price, \$1.50.]

Henrietta G. Rowe carries us back to Old Bar Harbor, before summer visitors brought wealth and fashion to the island of Mount Desert. The book abounds in love and pathos. The heroine of the story is a little maiden called "Comfort." Her young life is begun in the household of her father, Solomon Hadlock, a prosperous farmer with a family of three sturdy boys, who had hoped for a fourth. Comfort's birth is a disappointment to him, and the child has only the loving care of her unselfish and uncomplaining mother. Robert Humbre, an artist, comes to Bar Harbor, and his pictures create an interest in the locality. Visitors, eager to see for themselves the subjects chosen by the artist, increase so rapidly that the first hotel is built. The author has clearly portrayed the influence of these summer boarders on the natives, picturing the discontent bred by the wealthy men and women with their different dress and manners. Comfort endures many trials—her mother's death, then her father's and her brother's selfishness. She is forced to earn her own living, but Robert Humbre and his family, whom she has known and loved from childhood, befriend her, and there is a love story which ends in wedding gowns and orange blossoms. We cannot but be grateful for this sweet, clean story in which young and old will find much enjoyment. Incidentally, we have a true narrative of the growth of Bar Harbor as a fashionable summer resort. [Boston: Little, Brown & Co. Price, \$1.50.]

According to the United States Geological Survey, Massachusetts has more springs than any other State in the Union. Also, she has more kind of spring.

Poultry.

Practical Poultry Points.

We propose this week to take most of our poultry points from the bulletin No. 84 from the Rhode Island Experiment Station, as it is really a compilation from other bulletins and such sources as they consider authoritative upon poultry subjects, and brings together many things worth knowing and making a memorandum of, by the inexperienced and the experienced poultry-keeper.

According to Alexander Comyns of England the maintenance ration for a hen weighing two kilograms (4.4 pounds) should contain 6.4 grams of protein, 21 grams fat and 281 grams of carbohydrates. As 28.35 grams is equal to an ounce, this would mean about two ounces of protein to nine hens, a source of fat to eleven hens, and about a source of carbohydrates per hen. When feeding they require about twice as much protein, nearly three times as much fat, and almost twice as much carbohydrates. They require but little, if any, of the crude fibre in their food.

An experiment at Oklahoma station seems to show that Indian corn and Kaffir corn are more digestible when fed whole than ground, but cow peas slightly less so. A European experiment was made of hatching chickens free from foreign germs, in germ free air, and fed on sterilized food resulted in their death from two to three weeks. Others hatched in the same way and fed on food not sterilized, and some fed on sterilized food until nearly dead recovered when given unsterilized food. [Does this prove or indicate anything in regard to the use of sterilized or pasteurized milk for babies or invalids?—E.]

The New York station at Geneva, in bulletin 38 of 1892, states as follows regarding oyster shells, gravel, glass, etc., for poultry:

"The feeding of oyster shells during the laying season, where they can be cheaply obtained, is recommended. One pound will contain lime enough for the shells of about seven dozens of eggs."

"Fine gravel containing limestone will probably as well supply the deficiency of lime existing in most foods, but the use of some sharper grit which it may be of advantage."

"Long or sharp splinters of glass or dry bone should be avoided. The size of particles of grit had, for hens, better be larger than that of a kernel of wheat, and should be smaller than that of a kernel of corn."

"An unlimited supply of powdered glass has been attended with no bad result when the food and other grit available to the fowls contained an abundance of lime, but, when the food was deficient in lime and no other grit was attainable, hens ate an injuriously large amount of glass."

W. P. Wheeler, in the tenth report of the same station (page 193), in speaking of "Skim milk for growing chicks," says: "An unlimited supply of sweet skim milk can apparently be given to chickens with advantage, but sour milk must be fed with caution. When sour milk only is available, it is best to coagulate thoroughly by moderate heating, and feed only the whey containing as much of the whey as possible."

The same writer gives, in the report just cited, an account of a trial of a given grain ration, in the one case with an addition of tallow, and in the other with an addition of old process linseed meal. He says: "The average egg product was somewhat in favor of the hens having the less fat in their food, and the average size of the eggs laid by them was a little larger." He further adds: "The hens having the linseed meal moulted nearly all at the same time." They also moulted more rapidly and earlier in the season than those which received tallow. The amount of tallow fed was said not to be enough to affect the health of the fowls, but the ration was made thereby too deficient in nitrogen to encourage the growth of new feathers. The writer advocates a highly nitrogenous ration during the summer or moulting season.

Experiments in feeding salt are recorded in the report mentioned above (pages 200, 201), from which it is concluded that "for mature fowls it is probable that salt, at the rate of an ounce a day for one hundred fowls, could, under ordinary conditions, be fed without injury."

Probably that amount is enough, but we think twice that amount could be fed without injury.—E.]

Sweet skim milk can be profitably fed to either chickens or capons, but if sour, very little should be used. Close confinement and lack of variety in food, especially such as are rich in nitrogen, are said to be the conditions likely to cause feather eating.

Experiments with whole or ground grain showed that those having whole grain of 18.6 per cent, and those having ground grain of 21 per cent. The difference in cost of foods was about one-third greater with the hens having the ground ration, making them about equally valuable. This was with leghorns, in a two-years test, and included value of egg products and market value of fowl at the end.

W. P. Wheeler of the New York station says: "A ration consisting mostly of the ordinary ground grain foods and containing no whole grain was more profitably fed to chicks than any ration consisting mostly of whole grain and containing no ground grain."

Capons from the one lot afterward made somewhat cheaper gain in weight on the whole grain ration, but the gain was too slow to compensate for the more rapid growth which had been made, as chicks, by the lot having the ground-grain ration.

Of two other lots of capons, those having the ground-grain ration made the more profitable gain during several months. In every trial, more food was eaten when the whole grain was fed than when the whole grain was fed.

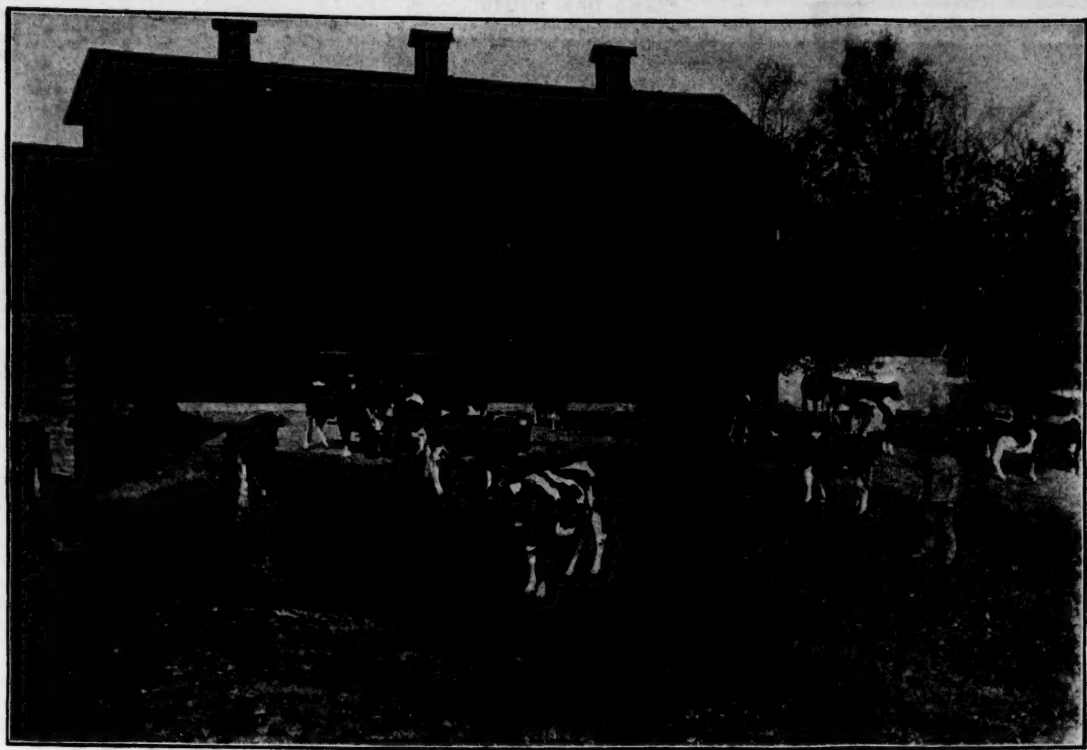
Neither the chicks and capons having the whole grain nor those having only the ground grain showed any lack of health or vigor.

A ration in which about two-fifths of the protein was supplied by animal food was much more profitably fed to chicks than a ration supplying an equal amount of protein mostly from vegetable sources, but supplemented by skim milk curd.

When the two rations were fed to cockerels, the results were favorable to the animal food, but the difference was not so pronounced as with the chicks.

Bullets fed the ration containing the larger proportion of animal food attained slightly somewhat the larger average size, but the chief advantage over those fed the vegetable ration was in the more rapid growth and earlier maturity.

With ducklings much the better results accompanied the feeding of a ration in which about half the protein was supplied by animal food. The growth was over three times as rapid as under another ration in which most of the protein was of vegetable



A HERD OF PRIZE GUERNEYS.
Owned by James Forsyth, Esq.

table origin, with enough of skim milk curd added to supply about one-fourth of the total protein

"In the general vigor and health of the birds there was some difference in favor of the animal food ration. This difference was very pronounced with the ducklings."

The Canadian Experimental Farms found straw preferable to sand or gravel as better for the fowl. At the Ontario College they found moistening food with hot water no better than to use skim milk, and that using yellow corn instead of oats and buckwheat gave a yellow tinge to the skin, while the latter left it creamy white.

At the Hatch Experiment Station in Massachusetts they found the grain from using condition powders for fowl not enough to repay its cost, and in two tests out of three found animal meal a better feed than ground cut bone. Cabbage produced larger eggs at less cost than clover rowen, but the flavor and cooking quality of the eggs was best from the rowen.

At Cornell station they found a ration of equal parts of wheat bran, wheat shorts and cottonseed meal, developed chicks earlier, and for fowl produced more eggs than those fed on cracked corn and corn meal, but the eggs were of poorer quality and smaller.

At West Virginia station they found the eggs more fertile, and more than double in number by using the nitrogenous ration or bran, shorts and cottonseed meal, than from the carbonaceous ration, and it was the most profitable, though it cost the most.

But we must defer the rest of our extracts and our comments until another week.

Poultry and Game.

Receipts of poultry remain light, but the demand is small and dealers report a very dull trade. Northern and Eastern poultry about steady. Choice roasting chickens at 23 to 25 cents, broilers at 15 to 18 cents, fowl at 14 to 15 cents for extra choice and 12 to 13 cents for common. Green ducks are 15 to 16 cents. Choice pigeons \$1.50 a dozen and fair to good 75 cents to \$1.25. Choice large squabs \$2 to \$2.50 a dozen. Western fowl in light supply, and selling from 12 cents for fair to 13 cents for choice. Broilers, 15 to 16 cents a pound, old roosters 9 cents and turkeys 14 to 15 cents. Frozen stock is higher. Choice broilers at 16 cents, good broilers and choice chickens 14 to 15 cents, common chickens 11 to 12 cents. Fowl from 10 to 12 cents, common to fancy. Choice turkeys 20 cents. Live poultry in fair supply. Chickens at 12 to 13 cents, fowl at 12 cents and roosters 7 to 8 cents.

Horticultural.

Orchard and Garden.

No small part of the cause of blackberries and raspberries drying up on the canes may be attributed to the work of the little red spider. As this insect thrives best in hot and dry weather, the cause is often said to be the drought or the heat, but examination of the leaves will often show these little insects present in great numbers, and the leaves so eaten by them on the under side that they dry and shrivel up as if they had been scorched by fire. When the leaves can no longer serve as the lungs of a plant, growth must stop. Two sprayings with kerosene emulsion, one just after blossoms fall, and the other just before the fruit ripens, will often prove more beneficial than irrigation. For the rust or anthracnose of the canes use the Bordeaux mixture.

A bulletin from the Arkansas Experiment Station gives some of the reasons why apple trees fail, which are as applicable to other States, and we propose to quote some of them.

Many orchards have been set on land that was obviously unfit. They instance one orchard of two thousand trees on land where the soil was but three feet above the level of the water, and the trees must have been planted in a place where they would be drowned by the water.

Some orchards are on soils which contain too much acid, both on flat land and rolling land, the latter not as bad as the flat land, which needs both drainage and lime. Twenty-five bushels of freshly slaked lime applied broadcast to the acre would usually prove sufficient for the needs of the trees, though it might need another application in five years. It is best to slake the lime on the land where it is to be used, and lime on the land by placing it in piles at this best convenient point and covering it with moist soil. The effect of lime is to produce a starchy, steady and vigorous growth and early ripening of fruit.

The orchards are often not sufficiently well fertilized. They quote from Professor Roberts of New York, who says that with thirty-five trees to the acre and a yield of fifteen bushels per tree, there would be removed in twenty crops of fruit and leaves 1337 pounds of nitrogen, 310 pounds of phosphoric acid and 1885 pounds of potash. This compared with the amount used by twenty crops of fifteen bushels of grain and wheat crops of fifteen pounds of straw, shows the apathy to take practically three times as much potash, twice as much nitrogen and half as much again phosphoric acid. When crops are grown in the orchard and removed, the soil exhaustion is most cheaply supplied by the

use of green manures like cowpeas and winter cover crops of vetch and rye, but excess of nitrogen is to be avoided. Potash and phosphoric acid should be applied. There is no objection to the use of stable manure. On light lands the manure is needed. A good plan is to use stable manure, twenty to twenty-five tons per acre, in place of the leguminous crops, once in four or five years. In cases where there is immediate need of nitrogen fifty to one hundred pounds of nitrate of soda may be used early in the season, as late in the season it carries continued growth and late maturing of the wood, and poorer color in the fruit. For commercial fertilizers two hundred pounds of ground bone, one hundred pounds Carolina phosphate and one hundred to two hundred pounds muriate of potash per acre is a moderate application, and the potash may be increased to four hundred or five hundred pounds, without injury, taking care not to place too much around the roots near the trunk. These are best applied previous to plowing, as their use on the surface tends to draw feeding roots there, while deeper rooting should be encouraged by early plowing, fertilizing and frequent tillage.

Close planting is often a cause of failure, especially if peach trees are planted or crops grown between them, and they are not well fertilized. J. H. Hale plants peach trees thirteen feet apart each way, but he feeds them like pigs. Many set early-bearing apple trees like Duchess, Missouri Pippin, Wealthy and Wagner, between later ones, intending to root them out as they grow, but they do not carry out their good resolves. An orchardist who has nine hundred acres near Springfield, Mo., says: "Apple trees in good land never should be planted closer than 30x30 feet apart, and in fairly good not closer than 25x25 feet. On soil that will not grow twenty bushels of corn to the acre apple trees will be unprofitable."

Much depends upon the early care of trees. The land should be prepared a year or two previous to setting trees. Wet places should be drained and perhaps limed. Poor soils should be well fertilized and manure worked deeply into the soil. Cultivation should begin with setting the trees the next spring. Rather deep plowing should be the rule for two or three years, being careful not to run too close to the trees. This encourages deeper rooting. Setting trees deeply and using whole roots does not accomplish this, and is of little advantage. Early training of the top should not be neglected. The nurseryman, to get salable trees, plants too closely and forms the head too high. In Arkansas low heads starting three feet from the ground are most desirable. The main stem or a short branch should be left for a leader. The side branches should be cut back within a few inches of the main stem, leaving buds on the ends of the stem on the side toward the gap it is desired to fill. The second year the leader may be cut back to induce branching, and one of the more upright top branches may be selected to form a leader, and it is desirable to maintain this plan throughout the life of the tree. In cutting side branches weak one should be cut back to two, three or four buds.

Most nursery trees are grown too closely, six to eight inches apart in the row. This produces too slender stems and unbalanced heads. Close planting makes a soft and tender growth. Sudden exposure to the sun when set singly must be trying to the tree. The trunk should be protected by the strips of wood veneering, which can be had at basket factories for \$4.50 to \$6 per thousand. They should be wired loosely and left to rot off. There is an advantage in one-year-old trees, as they have suffered less by shading in the nursery and are moved with less mutilation of the roots. But we must defer further extracts from this bulletin to a future article.

A report from Landers, Wyo., says: In addition to slaughtering several thousand sheep, a band of 150 masked men has surrounded all the sheep camps and forced the sheep men to abandon their flocks. After killing one herd of 200 sheep, 25 other herds, amounting to 65,000 sheep, were driven into the mountains.

Capt. John L. Young of Atlantic City says that the eruption of Mount Pelee has driven sharks north. He points to several catches of sharks along the coast in proof of this. Boing lava and mud in the sea is assigned as the cause of the migration.

Wheat, including flour, exports for the week ending July 24 aggregate 3,860,969 bushels, against 3,775,222 bushels last week and 4,974,326 bushels in this week last year. Wheat exports since July 1 aggregate 13,765,306 bushels, against 18,747,647 bushels last season. Corn exports aggregate 79,611 bushels, against 130,679 bushels last week, and 1,155,276 bushels last year. For the fiscal year corn exports are 429,446 bushels, against 7,164,043 bushels last season.

Sir Michael Hicks-Beach, in an address recently given before the lord mayor and city bankers of England, said the Chinese and South African wars had cost Great Britain \$1,400,000,000, of which tax-payers had willingly contributed \$375,000,000, and that \$750,000,000 had been borrowed on easy terms.

State and County Fairs.

STATE AND GENERAL EXHIBITIONS.

Chicago Live Stock.....Nov.
Illinois.....Sept. 10
Indiana.....Sept. 10
Iowa, Des Moines.....Aug.
Massachusetts Horticultural.....Sept. 18-Oct. 1
Michigan, Pontiac.....Sept. 18-Oct. 1
Minnesota, Hamlin.....Sept.

Nebraska, Lincoln.....Sept.
New Hampshire, Concord.....Aug. 26-29
New Jersey Interstate, Trenton.....Sept.
New York, Syracuse.....Sept.
North Carolina, Raleigh.....Oct.
Nova Scotia, Halifax.....Sept.
Ohio, Columbus.....Sept.
Oregon, Portland.....Aug.
Pennsylvania, Bethlehem.....Sept.
Pennsylvania Horticultural, Philadelphia.....Nov.
Philadelphia Live Stock.....Oct.
St. Louis, St. Louis.....Oct.
South Carolina, Columbia.....Oct.
South Carolina Interstate, Charleston.....Oct. June
South Dakota, Yankton.....Sept.
Texas, Dallas.....Sept.
Texas International, San Antonio.....Oct.
Tennessee, Nashville.....Sept.
Vermont, Rutland.....Aug. 26-29
Vermont, Concord.....Aug.
Wisconsin, Milwaukee.....Sept.

MASSACHUSETTS.
Amesbury and Salisbury, Amesbury.....Sept. 22-25
Barnstable, Barnstable.....Aug. 26-29
Berkshire, Pittsfield.....Sept. 9-11
Blackstone Valley, Uxbridge.....Sept. 9-11
Bristol, Taunton.....Sept. 22-25
Deerfield Valley, Charlemont.....Sept. 11-12
Essex, Falmouth.....Sept. 16-18
Franklin, Greenfield.....Sept. 17-18
Hampden East, Palmer.....Sept. 26-27
Hampshire, Amherst.....Sept. 16-17
Hampshire and Franklin, Northampton.....Oct. 1-2
Highland, Middlefield.....Sept. 3-4
Hingham, Hingham.....Sept. 23-24
Housatonic, Great Barrington.....Sept. 1-3
Hudson, Hudson.....Oct. 1 and 2
Marshall, Marshall.....Aug. 27-29
Martha's Vineyard, West Tisbury.....Sept. 6-17
Middlesex North, Lowell.....Sept. 11-12
Middlesex South, Framingham.....Sept. 16-17
Nantucket, Nantucket.....Aug. 20-21
Oxford, Oxford.....Sept. 4-5
Plymouth, Bridgewater.....Sept. 16-17
Sperner, Sperner.....Sept. 18-19
Union, Union.....Sept. 10-11
Weymouth, South Weymouth.....Sept. 25-27
Worcester, Worcester.....Sept. 1-2
Worcester East, Clinton.....Sept. 16-17
Worcester North, Athol.....Sept. 1-2
Worcester South, Sturbridge.....Sept. 11-12
Worcester West, Haverhill.....Sept. 11-12

MAINE.
Maine State Agricultural, Lewiston.....Sept. 1-5
Eastern Maine Fair Association, Bangor.....Aug. 26-29
Maine State Pomological.....Aug. 26-29
Androscoggin County, Livermore Falls.....Aug. 26-29
Durham Agricultural, Durham.....Sept. 16-19
Aroostook County, Houlton.....Sept. 16-19
Northern Aroostook, Presque Isle.....Sept. 1-11
Southern Aroostook, Sherman Mills.....Oct. 18
Madawaska, Madawaska.....Sept. 18-19
Cumberland County, Gorham.....Sept. 18-19
Northern Cumberland, Harrison.....Oct. 7-8
Columbia County, Calais.....Sept. 23-25
Gray County Association, Gray Corner.....Sept. 30-Oct. 2
Bridgton Farmers' Club, Bridgton.....Sept. 16-19
New Gloucester and Danville, Upper Gloucester.....Sept. 24, 25
Lake View Park, East Sebago.....Sept. 16-18
Franklin County, Farmington.....Sept. 16-18
Maine Franklin, Phillips.....Sept. 11-11
Hancock County Agricultural, Bluehill.....Sept. 18-20
Hancock County Fair Association, Ellsworth.....Sept. 18-20
Northern Hancock, Amherst.....Sept. 24, 25
Golden Agricultural, Edenburg.....Sept. 23-25
Kennebec County, Readfield.....Sept. 23-25
South Kennebec, South Windsor.....Sept. 16-19
Hilton Agricultural and Trotting Park Association, East Pittsford.....Sept. 9-10
North Knox, Union.....Sept. 23-25
Lincoln County, Damariscotta.....Sept. 30-Oct. 2
Bellevue, Belvidere.....Sept. 23-25
Oxford County, South Paris.....Sept. 16-18
Riverside Park Association, Bethel.....Sept. 9-11
Oxford, Oxford.....Sept. 30-Oct. 2
Androscoggin Valley, Canton.....Oct. 2-3
Northern Oxford, Andover.....Oct. 2-3
Penobscot County, Hampden.....Sept. 30-Oct. 2
North Penobscot, Exeter.....Sept. 30-Oct. 2
East Edgemoor Farmers' Club, East Edgemoor, Orrington Agricultural, Orrington.....Sept. 25-27
Piscataquis County, Foxcroft.....Sept. 16-19
Sagadahoc County, Topsham.....Oct. 14
Richmond Farmers' Club, Richmond.....Sept. 16-19
Somerset County, Somerset.....Sept. 9, 10
Somerset Central, Skowhegan.....Sept. 9, 10
Waldo County, Belfast.....Sept. 9, 10
Walden and Penobscot, Monroeville.....Sept. 16-18
North Waldo, Unity.....Sept. 16-18
West Waldo, Liberty.....Sept. 16, 17
Washington County, Presque Isle.....Sept. 16, 17
North Washington, Princeton.....Sept. 16, 17
Washington, Cherryfield.....Sept. 16-18
Shapleigh and Acton, Acton.....Oct. 7-8
Ossipee Valley Union, Cornville.....Aug. 19-21
Springvale A. & M. Association, Springvale.....Sept. 16-19
North Berwick Agricultural, N. Berwick.....Sept. 16-19

NEW HAMPSHIRE.
Nashua, Nashua.....Sept. 1-4
Rochester, Rochester.....Sept. 26-28

NEW YORK.
Hornellville Farmers' Club, Hornellville.....Aug. 26-29
Cambridge Valley Agricultural Society and Stock Breeders Association, Cambridge.....Aug. 26-29
Albany County Agricultural Society and Stock Breeders Association, Albany.....Aug. 26-29
Alegany Co. Agr. Soc., Allegany.....Sept. 9-11
Broome County Agricultural, Whitney's Pt.....Sept. 2-5
Cattaraugus County Agr., Little Valley.....Sept. 2-5
Cayuga Co. Agricultural Co., Moravia.....Sept. 23-25
Chautauque Co. Agricultural Co., Dunkirk.....Sept. 2-5
Chemung County Agricultural, Elmira.....Sept. 2-5
Chenango County Agricultural, Norwich.....Sept. 2-5
Clinton County Agricultural, Plattsburgh.....Sept. 16-19
Columbia County Agricultural, Chatham.....Sept. 2-5
Cortland County Agricultural, Cortland.....Aug. 26-29
Delaware County Agricultural, Delhi.....Sept. 9-11
Dutchess Co. Agricultural, Poughkeepsie.....Sept. 2-5
Erie County Agricultural, Hamburg.....Sept. 9-12
Essex County Agricultural, Westport.....Sept. 9-11
Franklin County Agricultural, Malone.....Sept. 23-25
Fulton County Agricultural, Johnstown.....Sept. 1-4
Genesee County Agricultural, Batavia.....Sept. 23-25
Greene County Agricultural, Cairo.....Aug. 19-22
Herkimer County Agricultural, Horticultural and Mechanical Arts, Herkimer.....Sept. 8-10
Jefferson County Agricultural, Watertown.....Sept. 1-5
Lewis County Agricultural, Lewisville.....Aug. 26-29
Brookfield-Madison Co. Agr. Fair, Fair Pt. B'n'd Sept. 22-25
Montgomery County Agricultural, Ponda.....Sept. 18-19
Monroe County Agricultural, Brockport.....Sept. 24-27
Niagara County Agricultural, Lockport.....Sept. 18-20
Oneida County Agricultural, Rome.....Sept. 22-26
Ag'l Exposition of Onondaga, Syracuse.....June 18-21
Ontario County Agricultural, Canandaigua.....Sept. 18-20
Orange County Agricultural, Middletown.....Sept. 16-19
Orleans County Agricultural, Albion.....Sept. 18-20
Oswego County Agr., Fulton (Westside).....Sept. 16-19
Oswego County Agricultural, Cooperstown.....Sept. 23-24
Putnam County Agricultural, Carmel.....Sept. 23-24
Ag'l Society of Queens-Nassau Co. Mineola.....Sept. 23-27
Agricultural and Liberal Arts Society of Rensselaer County, Nassau.....Sept. 9-12
Rensselaer County Agr'l and Hort. Society.....Sept. 1-4
Rockland County Agricultural and Horticultural Association, Orangeburgh.....Sept. 8-12
St. Lawrence County Agricultural, Canton.....Sept. 16-19
Saratoga County Agricultural, Ballston Spa.....Aug. 19-22

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Schoharie County Agr'l, Schoharie.....Sept. 29-Oct. 2
Scheneca County Agricultural, Watkins.....Sept. 16-19
Seneca County Agricultural, Watertown.....Sept. 23-25
Steuben County Agricultural, Bath.....Sept. 23-25
Suffolk County Agricultural, Riverhead.....Sept. 16-19
Sullivan County Agricultural, Monticello.....Aug. 26-29
Toga County Agricultural, Owego.....Sept. 2-5
Tompkins Co. Agr'l and Hort'l, Ithaca.....Sept. 8-12
Ulster County Agricultural, Ellenville.....Aug. 26-29
Washington County Agricultural, between Fort Edward and Sandy Hill.....Sept. 9-12
Wayne County Agricultural, Lyons.....Sept. 17-20
The Society of Agriculture and Horticulture of Westchester Co., White Plains.....Sept. 23-Oct. 4
Wyoming County Agricultural, Warsaw.....Sept. 15-17
Yates County Agricultural, Penn Yan.....Sept. 9-12
Cuba Fair and Racing Association, Cuba.....Sept. 16-17
Wellsville Fair Association, Wellsville.....Aug. 18-22
Binghamton Indus. Expo., Binghamton.....Sept. 30-Oct. 2
Franklinville Agricultural and Driving Park Association, Franklinville.....Aug. 26-29
Afton Driving Park Agr'l Assoc., Afton.....Sept. 23-26
Riverside Agricultural, Greene.....Aug. 26-29
The Columbia Agr'l and Hort. Assoc., Hudson.....Sept. 17-19
Catskill Mountain Agr'l, Margaretville.....Aug. 19-22
Delaware Valley Agricultural, Walton.....Sept. 16-18
Sidney Fair Association, Sidney. Second week in Sept.
Shavertown Agricultural, Shavertown.....Aug. 26-28
Prattville Hort'l and Agr'l, Prattville.....Sept. 9-11
Cape Vincent Agricultural, Cape Vincent.....Sept. 9-12
Hemlock Lake Union Agr'l, Hemlock.....Sept. 30-Oct. 2
Boonville Fair Association, Boonville.....Sept. 2-5
Vernon Agricultural, Vernon.....Oct. 1 and 2
Phenix Union Agricultural, West Phenix.....Sept. 23-26
Gorham Agricultural, Reed Corners.....Oct. 2-4
Naples Union Agricultural, Naples.....Sept. 16-18
Sandy Creek, Richland, Orwell and Boylston Agricultural, Sandy Creek.....Aug. 26-29
Morris Fair Association, Morris.....Sept. 30-Oct. 2
Oneonta Union Agricultural, Oneonta.....Sept. 18-19
Richfield Springs Agr'l, Richfield Springs.....Sept. 23-25
Scheneca Valley Agricultural, Scheneca.....Sept. 16-18
Rockland County Industrial Ass'n, New City.....Sept. 2-5
Governor Agr'l and Mech'l, Gouverneur.....Aug. 2-5
Oswegatchie Agricultural, Ogdensburg.....Sept. 2-4
The Racquette Valley and St. Regis Valley Horticultural and Agricultural, Potsdam.....Sept. 9-12
Coltskill Agricultural, Coltskill.....Sept. 23-25
Prattsburg Union Agr'l, Prattsburg.....Sept. 23-25
Southern Steuben Agr'l, Trumansburg.....Sept. 23-25
Caldonia Grange Fair, East Hardwick.....Sept. 27
Lyndonville Fair, Lyndonville.....Sept. 23-25
Caldonia Fair Ground Co., St. Johnsbury.....Sept. 16-18
Ryeague and Wells River Valley Dairyman's Association, South Ryeague.....Aug.

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Putnam County Agricultural, Carmel.....Sept. 23-24
Ag'l Society of Queens-Nassau Co. Mineola.....Sept. 23-27

MASSACHUSETTS PLOUGHMAN

It would be hard to find a better investment for thirty-six cents than to buy somebody who needs an outing a Fresh Air fund picnic.

There is comfort for town dwellers in the tidings that come from the seashore whispering of the scarcity of lobsters, and one danger less for the absent families that the town dwellers have sent away for their health.

Now that the war is over, the new officers in the United States Army must go to school. The fact will probably disappoint some of them, but it is an inevitable part of the theory, "in time of peace prepare for war."

Any one who doubts that anti-imperialism is still an issue has only to look at the names represented in the Lake George convention. The general public, there is some reason to believe, have got used to associating the movement entirely with Boston and a few Bostonians.

We are still determined to find out who is this young Bostonian whom the lady from Omaha met, saw and conquered in twenty-four hours. The problem is particularly difficult just now when so many of our most charming young men are out of town for the summer.

Even the anti-imperialists will be pleased that a Filipino artist has made the accepted design for the new Filipino coins. The design, however, looks a bit into the future. We are not yet quite used to thinking of the Filipino in connection with a hammer and anvil, although, in this industrial age, to pound out one's fortune is certainly a more direct method than to try to carve it.

Massachusetts capital is said to be planning a trackless trolley for Franklin, N. H. Those, however, to whom the experience suggests the fear that trolley cars without tracks would be inconveniently likely to travel on both sides of the road, may take comfort in the fact that they will still require the anchorage of an overhead wire.

The heyday of the blood is unusually tame, to say nothing of humble, in the case of the Chicago washer woman who married an old gentleman of \$50,000 the other day, and on the day following is reported to have gone out washing "the same as ever." Perhaps, however, this particular wash had been already contracted for, and was, therefore, at once a happy example of business conscience and a swan song of the tub.

How much longer will the strike last now that it has begun to affect the individual citizen? Up to that point the average citizen can sympathize comfortably with whichever side he affects naturally, but uncomfortable sympathy requires the soul of a philosopher. To put it mildly, the average citizen begins to be bored, and in the long run neither labor nor capital can afford to have the bulk of humanity regard its actions as a personal nuisance.

Some of the other parts of Boston will have their doubts of the feasibility of Father O'Farrell's ambition to see the North End become a model for the rest of the city, but for all that the North End is not nearly so bad as it is sometimes painted. One of the first things that the newly organized improvement society will have to fight for is better care of the streets, not only by the inhabitants, but even by the street department.

Probably the prospective inhabitants would agree with Dr. Jagger that the slopes of the volcanoes ought not to be rehabilitated without some actual precautions taken for warning the people of any future explosions. Human nature being what it is, it is equally probable that as soon as the slopes are again habitable people will go right on living on them, observatories or no observatories.

A Chautauquan lecturer in the West has made a strong bid for the position of most dangerous man in the community. He is advising parents to set boys and girls to writing novels at the age of nine; and to follow the novels with attempts at poetry and dramatic composition. This is every child to acquire a proper understanding of literature. So far as it goes, the public utterance of such a theory is an actual menace to literature. Fortunately it does not go far enough to attract an appreciable number of followers. But it is likely to catch a few parents and utterly to destroy the satisfaction that, some day or other, their children might naturally come to take in reading as a recreation.

The opinion entertained of the value of the beet-sugar industry, or of the profit of growing sugar beets by those who live where they have been grown, is shown by the fact that in Michigan, where they have given it a fair trial, four Republican congressmen, who were most earnest in their opposition to the admission of Cuban sugar free, or at a low rate of duty, have been defeated in their efforts for re-nomination. Evidently the people there prefer sugar to be sold at five cents a pound or less than to grow beets and sell them at \$4 a ton. And there have been others in other States who have been defeated upon the same issue, while we have not learned that one has yet been re-nominated who voted for high-priced sugar and low-priced beets. We expect to live long enough to see the sugar-beet business follow the mulberry tree for silk worms, the sorghum sugar business, the blue glass theory, and other humbugs that we have known in our life, into "innocuous desuetude" or utter obscurity, only living in the remembrance of those who made money by advocating them, or the greater number who lost money by trying them. We were fooled into advocating growing sugar beets by the eloquence of one who started the growing of them, and the starting of factories for making the sugar in Portland, Me., and Franklin, Mass., but the results at those places were so discouraging to the farmers and disastrous to the shareholders in the factories, that it would be difficult to remove our prejudices against the business. Let them grow the beets if they want to in Germany, where women will work all day in the beet field for twenty cents, but we do not need such work here.

A dispatch, which tells of the collapse of a building in Texas, by which several were killed and a large number injured, says, "It was an old one, having been built twenty-five or thirty years ago." That may seem old in Texas, but the building in which we lived as a boy was built so long ago that some of the rafters (it was a gable-roofed house) were cut out whole, like ship

knees, of solid oak, nearly six inches square at the lower end. The oak sills were from twelve to fifteen inches square. The kitchen chimney would take in sticks more than four feet long, and we have heard our mother, who was born in 1788, tell of the time when the back log for the kitchen fire was always drawn to the kitchen door by a horse or yoke of cattle. An old will, dated before the Revolutionary war, left the widow of our great, great grandfather the right to "the front room in the old part of the house," the east end, for such time as she should survive him. It is not many years since that building was taken down to make room for a more modern one, but it certainly could have been called an old building then, probably five times thirty years old. We remember seeing a house in Bristol County on which the owner showed us the shingles he shaved from pine lumber before he had finished his apprenticeship, more than fifty years before, and he was then over seventy years old, yet they were serviceable, and he expected them to last his lifetime. A well-built house and a well-cared-for man, or not, not to be called old until nearly three times thirty years have passed.

Secure Hay Crop Early.

It is but a little time after getting through with feeding the stock in spring before the quickly growing grasses are ready for the harvesting. This crop grows in a comparatively short time, and to be of the greatest value as hay should be secured as nearly as possible at the proper stage of development. Were it not that there is such a variety of grasses—or there may be on the farm—this work would be exceedingly difficult to do, and, as it is, celerity and good judgment are necessary for the best results.

The farmer should endeavor, as far as circumstances will permit, to secure his crop of hay when at the best stage of development, and this is generally conceded to be when the grasses are in full bloom. To do this it will be necessary on most farms to select out and secure the earliest maturing kinds first. This may require a little more time and labor, but it is the only way in which the greater part of the crop can be harvested when the best conditions help. On many farms there are low-lying places or fields that yield principally the wild or water grasses. These grow quickly, and if cut early make a very good quality of hay, but if left until late it is of little value. These grasses cure readily and should have first attention.

If any fields are infested with weeds, early cutting of the crop is very desirable to avoid the maturing of the seeds. Then, possibly, a second crop of better quality may be secured, especially if stimulated with a little fertilizer.

The clover crop is one of great importance, but its value will largely depend at what stage of growth and in what condition it is secured. Like the other kinds of grasses, it should be harvested as nearly as possible when in bloom. A heavy crop of the common red clover alone is difficult to cure properly, and will require the best of management. For our own purpose, we prefer a mixture of the common red and alsike clovers along with timothy. These make a good quality of hay, and especially as the timothy is harvested quite early and the whole cures much easier than the clover alone.

Timothy is largely grown in the United States and is valuable for horses and market purposes, and when secured early does very well for cows. This is later than most grasses and so can be left until the last in cutting, but it should not be allowed to get too far matured, or there will be too great a loss in quality.

In some parts of the United States there are other kinds of grasses than those mentioned, but the same rule for early cutting for most value will be fully applicable.

It will cost more to secure the hay crop when in the stage of growth here recommended, but the increased value will much more than compensate for the extra labor in harvesting.

To begin with, there should be the necessary machinery to secure the crop the most expeditiously and in the least time. This is now the more apparent, at least in some parts of the country, from the great scarcity of help, and machinery must, as far as can be done, take the place of manual labor. Farmers will find it an advantage to grade their hay at harvest time, putting the different kinds or qualities by themselves, where they can be had as wanted. This is particularly desirable where dairies are kept, and the best is wanted for the cows.

On farms where a second crop of hay is secured, early harvesting, of course, is of the utmost importance, and wherever rightly practiced I think the custom of early harvesting will be found best.

Points on Cranberries.

The president of the Wisconsin Cranberry Growers Association remarked, in an address last winter, that we could not rely on the cranberry picker of olden times; we could not get enough help to pick half our crop, and the consequence was that the rake must be used; and, in order to do this profitably, we must prepare our marshes and vines so we could rake them. It is important for growers to learn the best method of getting the vines into shape, so the rakes can be used without losing too many berries.

Another important problem is the crating, packing and storing of at least part of the cranberry crop. Warehouses can be built cheaply; and, if properly constructed, can be cooled off by ventilation. If the warehouses were built on dry ground basements could be put underneath to good advantage, made of stone or brick.

The idea of cooling a warehouse by ventilation is new to many. Ice may be used in such a building, but it could also be cooled by ventilation. The use of such a structure could be built of six or eight-inch studding, boarded outside and inside, and filled with sawdust. Or it could be a building entirely of lumber, with four-inch studding, two thicknesses of board outside, with paper between; and on the inside nailing strips up and down the studding for lath and plaster; and then the inside ceiling with matched lumber. This would give two air spaces and make a good, warm house.

The ventilation is created by putting near a lower floor windows that will open, the same to be about 2x3 feet and fifteen feet apart. Then air-flues should be built to reach from the ceiling to above the roof. It is claimed that such a house can be cooled to quite a low temperature by opening these windows at night and closing them during the day. The fruit should also be cooled off before packing it in the warehouse. Such a house may have about seven feet space between the floor and ceiling. The lower floor could be on the ground with some 2x4 pieces of joist to roll barrels on. The floor between the two stories or upper floor of one story should be made about the same as the side walls.

G. H. Porter of Kansas City gave a



HON. JOHN L. BATES,
Lieut.-Governor of Massachusetts.

buyer's experience. He said the Wisconsin barrel was found to be all right, as the market had become accustomed to it. In New Jersey they had two kinds, a ninety-quart barrel and a twenty-eight-quart crate, which made it difficult to quote prices. He favored grading and the adoption by the association of definitions of size and just what they should be.

Some growers were very particular, and the consequence was their product always sold well. All the buyers want, or should want, is to get what they pay for. They were greatly troubled in the East with worms, and now a root worm has put in an appearance.

As to cost of harvesting where raking was used it had been done as low as eighty-five cents per barrel, including cost of barrel; and he knew of a case where total cost, including insurance, taxes and interest, had been \$1.40 per barrel.

Trimming the vines should always be done in one way or direction. The first year an inch of sand was put on the next year another inch, after that half an inch, and so on, to keep all uprights. Some use a lighter rake to get the top runners out of the way. There was not much scooping in New Jersey, as vines were rank and long, but at Cape Cod they thin them out.

Seventy-five to one hundred barrels per acre was regarded a good average crop where conditions were right. Good, quick draining made more improvement than anything else. As to varieties for an all-round berry, the Howe cannot be beaten, as it is also very good for productiveness. Generally picked from middle to twentieth of September.

If Early Blacks are picked white they will keep, but if picked when ripe they go all to pieces. While true that the pulp and juices go to protect the seeds, as growers cannot choose time to pick, yet experience has shown the best time to gather them is the first week in September. We generally have trouble with Early Blacks in a wet year, but in 1901 we had trouble with dry rot, not a soft decay.

During dry, hot weather he advised running water through the ditches, but to be sure to get it off before the sun got hot, as the object is only to moisten the atmosphere. Cool and dark rooms best for storage, with a temperature about 40°. His experience was that the berries keep better in the chaff.

As to inspection of berries, the buyer goes to parties and tells them what he wants; then he goes to the cars, and if they are not right rejects them. For self-protection he has to reserve the right to inspect after screening, but the best thing to do is to establish a good reputation. As to what was the best berry was largely a matter of opinion, taste or whim.

The Wisconsin association resolved as follows: That as to size, small or "pie berries" shall be such as will pass through a three-eighth inch screen; medium or standard, shall be berries that pass through a five-eighth screen, with the "pie berries" out.

Wheat-Growing Countries.

Some of the great wheat-growing countries are scarcely ever referred to as large raisers of this cereal, simply because they grow the grain at home, they export very little. Italy, Germany and Spain, for example, all grow far larger quantities than Argentina or Australia, but we hear little about their wheat, because they consume practically all of it at home. Much is written about the wheat crops of Argentina and Australia, because they are contributors to the general commerce in wheat; though, as a rule, twelve countries each produce more wheat than Australia and ten countries surpass Argentina in annual yield.

It would take about all the wheat of Australia to make the macaroni that Italy manufactures from her home wheat supply with a great surplus left for bread. Argentina would have to increase her product fivefold to raise the amount of wheat grown in France, which ranks third among the world's producers. It is easy to forget that France is surpassed only by the United States and Russia in wheat production, for her great crop does not supply her need and she is a wheat-buying country. A little over forty years ago rye bread was the staple food of the French peasantry, but most of them have since joined the wheat-eaters, with the result that the people cannot raise all the wheat they need.

France's average crop is usually about one-third larger than that of India, whose wheat seems to attract more attention than France's harvest, for no other reason, apparently, than because, in good crop years, India is expected to help supply the deficiency in Europe.

Except in famine years India has from 12,000,000 to 35,000,000 bushels of export wheat grown in our winter months when the climate in the best wheat districts is usually as cool, at least, as a Minnesota summer. Though India is the fourth largest grower, the wheat crop is far inferior in importance either to the rice in the low-

lands or the millet of the dryer plateau of the Deccan, these two grains being the great staples of vegetable food. There is an export tax on rice because the country needs all it grows; and the ability to help supply Europe with wheat bread is a boon to the farmers of the Punjab for which they have to thank the Suez Canal. They could not send wheat to Europe as long as it was necessary to double the Cape of Good Hope, passing through the tropics both in the Indian ocean and the Atlantic; but steamship transportation through the canal made a new source of breadstuffs tributary to Europe; and Indian export wheat is one of the most conspicuous illustrations of the influence a great ship canal may exert upon the economic conditions of a country.

But how the United States dwarfs all the other wheat-exporting nations! There are only four countries, Russia, France, India and Italy, that raise more wheat than we send across the ocean to foreign consumers; and this is not counting in the 15,000,000 to 18,000,000 barrels of flour we annually export.

The Products from Milk.

One of the most striking features in the history of dairy farming in the United States is the transfer of this industry in large part from the farm to the factory, as shown by the experts of the twelfth census. The cows and milk continue to be farm property and products, but a constantly increasing share of the labor of converting milk into marketable form is done at creameries, cheese factories and condenseries. The products of these establishments come into the realm of manufactures.

This change has taken place during the last half-century, which covers the period of development of associated and co-operative dairying in America. When the milk produced on two or more farms, or the cream from such milk, is brought together at one place to be condensed, or made into butter or cheese, domestic industry ceases, the place becomes a factory, and its output a manufactured product. The United States census of 1880 noted the existence of eight milk factories. The number increased little until after 1890, but in 1870 there were 1313 reported, including both cheese factories and butter factories, generally called creameries. The census for 1890 reported 3932, and that for 1890 gave the number as 4712. The returns for 1900 include the statistics of 9335 butter, cheese and condensed milk factories. These central plants have under their control 2050 skimming or separating stations and 747 other branches.

DEVELOPMENT OF INDUSTRY.

The enormous development of the industry is shown by the following table:

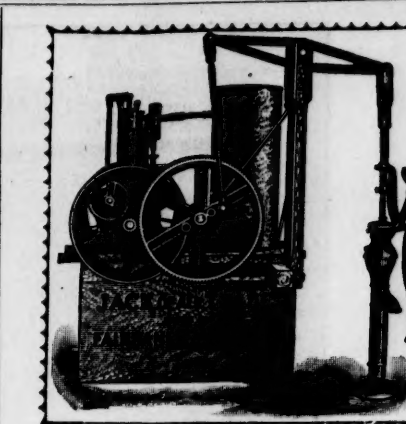
	1880	1890
Number of establishments	8	4,712
Capital	\$36,508,015	\$16,624,163
Number of salaried officials, clerks, etc.	2,328	2,320
Salaries	\$915,442	\$968,904
Average number of wage earners	12,865	19,401
Total wages	\$5,170,670	\$4,425,101
Men, 16 years and over	11,694	11,775
Wages	\$5,862,256	\$4,267,169
Women, 16 years and over	1,049	725
Wages	\$280,882	\$148,758
Children under 16 years	122	101
Wages	\$17,732	\$11,174
Wages, 1890-1900	\$1,706,706	\$875,182
Cost of materials used	\$109,151,285	\$2,364,574
Value of products	\$131,199,277	\$62,686,043

These remarkable figures are emphasized by the statement that the increase of capital invested in 1900 over 1880 was twenty-eight per cent., and the value of product in the same periods grew 410 per cent.

As reported in the census of 1890, the three States having the greatest number of creameries and cheese factories together were New York (1337), Wisconsin (966) and Iowa (500). The same States were in the lead in 1900, but Wisconsin and New York changed places; these two States divide their establishments similarly, there being in each somewhat more than half as many creameries as cheese factories. Iowa, holding third place, is pre-eminent in butter making, with more creameries than any other, and only eighty-five cheese factories.

It is interesting to note that while the extension of the creamery system has been such as to raise the product of these establishments during the decade from 15.2 to 28.2 per cent. of the total butter product of the United States, with a net increase, as reported, of 13.7 per cent., the quantity of butter made on farms has, nevertheless, increased nearly 50,000,000 pounds, in spite of the fact that it decreased relatively from 81.8 per cent. of the total product to 71.9 per cent.

As a rule, the States producing the greatest quantities of butter in factories are also those in which the quantities made on farms are greatest. Ohio is a notable exception. It produced 79,551,299 pounds of butter on farms, which is more than any other State, while its creamery product was comparatively small, being only 8,117,321 pounds. By combining the products of farm and factory, it is found that Iowa stands first, with 139,022,532 pounds; and then follow New York, 115,408,222 pounds; Pennsylvania, 111,388,240 pounds; Wisconsin, 106,532,640 pounds; and Illinois, 86,548,762 pounds. In Iowa and Wisconsin cream-



FAIRBANKS-MORSE GASOLINE ENGINES.

FOR ALL PURPOSES.
IN SIZE FROM 1 1/2 TO 60 HORSE-POWER.
THE JACK OF ALL TRADES.
1 1/2 ACTUAL HORSE-POWER, (SHOWN AS USED FOR PUMPING).
MAY BE DISCONNECTED AND USED FOR ALL KINDS OF FARM WORK, SAWING, GRINDING, ENTAILING CUTTING, ETC.
SEND FOR CATALOGUE.
CHARLES J. JAGER COMPANY,
174 HIGH ST., BOSTON, MASS.

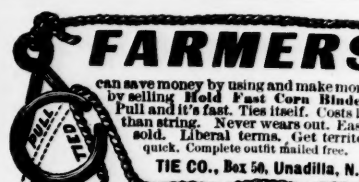
FOR THIRTY YEARS

our Force Pumps have been the leaders in New England. The

BUCKEYE PUMP

works easily, throws a steady stream, does not drip or freeze. It is built to last, hence is a valuable purchase. We also sell Wind Mills, Tanks and Gas Engines, besides all Water Supply Goods.

SMITH & THAYER COMPANY,
236 CONGRESS ST.,
BOSTON, MASS.



PUMPS

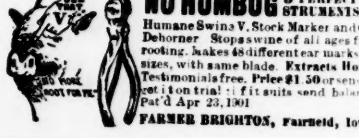
FOR ALL PURPOSES.
HAND, STEAM, POWER,
HOSE AND PIPE
PROMPT DELIVERIES.
CHARLES J. JAGER CO., 174 HIGH ST., BOSTON, MASS.

MOSELEY'S Fruit Evaporator

A little factory for only \$6.00. For use on an ordinary fruit stand. No extra cost for fuel. Makes and evaporates apples, pears, peaches, all kinds of small fruits and berries, corn, pumpkins and squash. Send for circular. Agents wanted everywhere. MOSELEY & FRITCHARD, 210 N. 4th St., Clinton, Iowa.

WE COULD SAVE

\$500 a day if we could make PAGE FENCE of common fence wire, but it won't hold the cow. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.



Crimson Clover Seed.

The great fertilizer plant yields 3 to 3 tons of hay to the acre, 15 to 20 bushels of seed. Sow in July and August. Price, \$3.50 per bushel, F.O.B. Bags free.
EDGAR B. SMITH,
West Seneca, Erie Co., N. Y.

On SEPTEMBER 22

THE
Massachusetts
Charitable
Mechanic
Association

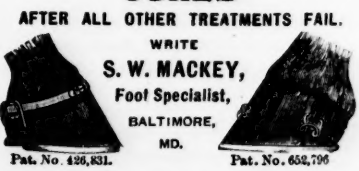
of Boston will open its doors to the public with an exhibition of the improvements along mechanical and scientific lines which have been produced since their last Fair, in 1898. It is the intention of the Association to give to the public the finest display ever shown in Boston, and this will be but one admission—Twenty-five Cents.

PROFESSOR CHADWICK'S PATENT HOOF EXPANDER

Cures Founders, Thrush and Sore, Itch and Swelling, and is superior to any other hoof expander made.

Sizes—Nos. 1, 2, 3, 4, 5, 6. No. 1 Expander fits No. 1 shoe; No. 2, No. 2 shoe, etc. The best and cheapest in the market. 1 pair sent postage prepaid, on receipt of \$1.00. Send for circular.

S. E. CHADWICK, Proprietor.
Lock Box 376, Bristol, R. I.



NEWBURYPORT FAIR,

SEPT. 16, 17, 18 and 19, 1902.

SEPTEMBER 17. Purse, \$300.
2.28 Trot or Pace. 2.19 Pace.
SEPTEMBER 18. Purse, \$300.
2.21 Pace. 2.18 Trot or Pace.
SEPTEMBER 19. Purse, \$300.
2.30 Pace. 2.28 Trot or Pace.
Free-for-all Trot or Pace.
Entries in open races close Sept. 6, at which time all horses must be named.
CONDITIONS—National Trotting Association (of which this association is a member). Rules to govern, except that horses will be allowed. Entrance fee 5 per cent. of purse, with 5 per cent. additional from winners. The right is reserved to declare off any horse which receives less than eight nominations and four starters. Horse distancing the field to receive one money only. All entries are made to the secretary. OSCAR E. NELSON, Sec'y.
Newburyport, Mass.

The Markets.

BOSTON LIVE STOCK MARKETS.

ARRIVALS OF LIVE STOCK AT WATERTOWN AND BRIGHTON.

For the week ending Aug. 6, 1902.

	Cattle	Sheep	Hogs	Veals	Horses
This week	2,678	623	150	25,220	1,724
Last week	3,326	775	130	21,811	2,131

Prices on Northern Cattle.

HEIFER—Per hundred pounds on total weight of hide, tallow and meat, extra, \$8.75; 750 lbs. first quality, \$5.00; second quality, \$4.50; third quality, \$4.00; 425 lbs. a few choice single pairs, \$10.00; some of the poorest, bulls, etc., \$2.00; 550 lbs. Western steers, 4c.

COWS AND YOUNG CALVES—Fair quality \$3.00; 450 lbs. choice cows \$2.00; 450 lbs. 3-year-olds, \$2.50; 2-year-olds, \$1.50; 3-year-olds, \$2.00.

SHEEP—Per pound, live weight, 2 1/2 cts; extra, 3 cts; sheep and lambs per head, 40 lbs., \$4.00; 45 lbs., 4 1/2 cts.

FAT HOGS—Per pound, Western, 7 1/2 cts; live weight, shotes, wholesale, retail, \$2.25; 250 lbs. country dressed hogs, 9 1/2 cts.

VEAL CALVES—4 1/2 cts; 40 lbs. country lots, 5 1/2 cts.

HIDES—Brighton—4 1/2 cts; country lots, 5 1/2 cts.

CATTLE SKINS—65c; 125 lbs. dairy skins, 40c; 200 lbs. country, 45c; 40 lbs. country lots, 2 1/2 cts.

FELTS—25c; 75c.

	Cattle	Sheep	Hogs	Veals	Horses
Watertown	1,329	548	3,402	83	255
Brighton	1,349	483	21,758	741	112

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Watertown	1,329	548	3,402	83	255
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TUESDAY—Less arrivals and a lighter demand.

For common to fair grade cattle the decline as quick as the advance a few weeks ago. When the demand in the city shortens down go the values. For strictly nice cattle steady prices. J. W. Ellsworth sold 9 cows, 100 lbs. at 3c. J. A. Hathaway sold several carloads of heifers, 1025 to 1150 lbs. at 4c. A. C. Foss sold 5 beef cows, 3500 lbs. at 4c. O. H. Forbush, 1 heifer, 810 lbs. at 3c. Libby Bros. sold 25 steers, heifers and cows, at 4c. A. C. Foss, 1 cow, 1000 lbs. at 3c. Keegan, 3 cows, 2800 lbs. at 3c; 4 cows, at 1025 lbs. at 3c.

Milk Cows.

Not over 400 head on the market and lighter supply than last week. Not a very active demand, with no improvement in prices. The call is largely for the better class on sale. A. Williamson sold 5 nice new milk cows at \$30 each. Thompson & Hanson sold 4 of their best cows at \$45 each; 3 cows at \$40 each. Libby Bros. sold 5 choice cows at \$25 each; 5 cows, \$40 each; 3 cows, \$30 each.

Veal Calves.

Last week's prices well sustained. The demand has been good all through the season and no difficulty in the selling, mostly at 4c. A. C. Foss, 41 calves, at 7c. M. D. Holt & Son, 14 calves, 130 lbs. at 4c. Hall & Wormwell, 25 calves, 115 lbs. at 4c.

Late Arrivals.

Wednesday—The market is somewhat favorable to the buying interest. Milk cows not particularly active, still no difficulty in the disposal of the better class of cows. Not as many on sale as last week, which helped the trade. Beef cows slow of sale. O. H. Forbush buying up backward springers to turn out to pasture rather than to pick up beef cows in the country to put upon the market. Libby Bros. sold some thirty odd cows, offered on commission, from \$30 up to \$55. Harris & Fellows sold cows from \$50 down to \$35. J. S. Henry, 10 cows (choice) \$50 each, unless specially chosen; cows, \$35; 5 cows, \$30; 5 cows, \$25; 5 cows, \$20; 5 cows, \$15; 5 cows, \$10; 5 cows, \$5; 5 cows, \$2.50; 5 cows, \$1.25; 5 cows, \$0.625.

Store Pigs.

No change. Small pigs, \$3 to \$4.50. Shotes, \$5.50 to \$8.

BOSTON PRODUCE MARKET.

Wholesale Prices.

Poultry, Fresh Killed.

Northern and Eastern—
Chickens, choice, 12c; 11c; 10c; 9c; 8c; 7c; 6c; 5c; 4c; 3c; 2c; 1c; 1/2c; 1/4c; 1/8c; 1/16c; 1/32c; 1/64c; 1/128c; 1/256c; 1/512c; 1/1024c; 1/2048c; 1/4096c; 1/8192c; 1/16384c; 1/32768c; 1/65536c; 1/131072c; 1/262144c; 1/524288c; 1/1048576c; 1/2097152c; 1/4194304c; 1/8388608c; 1/16777216c; 1/33554432c; 1/67108864c; 1/134217728c; 1/268435

Our Homes.

The Workbox.

PUFF-STITCH CROCHETED SHAWL.
Use six hanks of Shetland wool (not foss). Hook to correspond. Chain 8 stitches and join round.

1st round—Pick up a stitch, thread over, another loop, thread over, another loop, thread over and draw through all the loops of stitches, fastened to close puff. Fourteen of these puffs in a ring.

2d round—Two puffs in the first space between the puffs, then one in the next, then two in the next. Continue this until there are seven single and seven double puffs.

3d round—Two puffs in the two in lower row, then two single. Continue this way around the row, always putting two in two of the lower row. Continue this way until you have twenty-six rounds.

27th round—Make a shell of 6 double crochets in 1 space, miss 1, then make 2 pineapple stitches in the next space.

Pineapple stitch—Thread over and draw up a loop, continue until you have eleven loops on the needle; yarn over, draw through all the loops. Fasten, miss 1, then another shell. Continue this way around the shawl.

28th round—Make a shell of 8 in each shell of 6, having 4 in the centre and 1 on each side, then the pineapple stitch.

29th and 30th round—A shell of 8 in each shell of 6, always keeping 4 in the centre, and the pineapple stitch in between the shell.

31st, 32d and 33d round—A shell of 10 in each shell of 8.

34th and 35th round—A shell of 12 in each shell of 10.

36th and 37th round—A shell of 14 in each shell of 12. Finish with a loop of chains, making 20 stitches in each chain and fastened between each shell. EVA M. NILES.

Food for Nervous Individuals.

As a rule, salt meat is not adapted to the requirements of nervous people, as nutritious fishes go into the brine to a great extent. Fish of all kinds is good for them. Raw eggs, contrary to the common opinion, are not as digestible as those that have been well cooked. Good bread, sweet butter and lean meat are the best food for the nerves. People troubled with insomnia and nervous starting from sleep, and sensations of falling, can often be cured by limiting themselves to a diet of milk alone for a time. An adult should take a pint at a meal, and take four meals daily. People with weakened nerves require frequently a larger quantity of water than those whose nerves and brains are strong. It aids the digestion of these by making it soluble, and seems to have a direct tonic effect.—Science News.

Headaches.

Dr. S. Weir Mitchell formulates the following conclusions: There are many headaches which are due directly to disorders of the refractive or accommodative apparatus of the eyes. In some instances the brain symptom is often the most prominent and sometimes the sole prominent symptom of the eye troubles, so that, while there may be no pain or sense of fatigue in the eye, the strain with which it is used may be interpreted solely by occipital or frontal headache. The long continuance of eye troubles may be the unsuspected source of insomnia, vertigo, nausea and general failure of health. In many cases the eye trouble becomes suddenly mischievous, owing to some failure of the general health, or to increased sensitiveness of the brain from moral or mental causes.

Acidity of the Stomach.

As the late distinguished Dr. Flint has observed, the mass of laboring men are free from dyspepsia, while the indoor workers, students and the like are particularly subject to it. The natural and very correct inference is that if the latter class would bring their habits of life a little more into keeping with the occupation of laborers, it would tend to eradicate their dyspepsia. As a general thing, the student, the office man, the thinker indoors is an overfed individual. Among those with good physique, overfeeding tends to promote gout, a condition wherein an acid is evolved in the blood, and unites in the joints with soda, forming there a compound which is likewise a condition in which there seems to be an acid in the system, tending, as in the case of gout, to irritate and inflame the joints. Gout is the slow outcome of overfeeding; rheumatism is accelerated by certain atmospheric changes; and acid dyspepsia is the immediate outcome of overfeeding (or of want of exercise). It occurs to the writer that, if the stomach be very strong, or digestion flippant, as with stimulants, etc., the acid condition might show itself otherwise than in the stomach—for example, upon the skin in the form of eczema.

A most common form of dyspepsia is acidity, in which, when a little of the gastric contents is regurgitated, it burns the throat like a corrosive acid. It likewise burns the stomach so that the pain sometimes becomes intolerable, and, strange to say, it oftentimes subsides if the patient lies down, for the recumbent posture alters the position of the fluid in the stomach. Occasionally eating freely will bring ease and relief—indeed, it seems to start digestion afresh and effectively.

It has been frequently pointed out that the victims of cancer of the stomach are frequently those who have suffered long from dyspepsia. Advancing knowledge has led to the conclusion that an injury or a protracted irritation is a frequent precursor of cancer. The presence of a burning liquid in the stomach, day after day, should be, and doubtless is, a frequent cause of cancer of this origin.

"But," says one, "I am busy all day—what am I to do?" Walk out in the evening; never go to bed on a full meal without having had a walk. Further, carry something of some weight in the hands, for walking alone is not sufficient. We know a man who keeps acidity of the stomach at bay by walking every night after dinner with a bag full of books in his hands. The books exercise the arms, the walking the legs. Tricycling and bicycling are admirable exercises, and as to horseback riding, Lord Broughton said: "The outside of a horse is the best thing for the inside of a man."

How about medicines? is a pertinent inquiry. They are palliative in acidity of the stomach, but will no more compensate for a deficiency of exercise than for an insufficiency of air or light. Magnesia carbonate is most useful, say, in doses of five or ten, or even twenty grains, in a wine-glass of water. To relieve at once, soda bicarbonate is without unequalled; from six to twelve tablets may be taken at a dose. The difficulty with soda is that it does not tend to cure so effectively as the potassium bicarbonate does. We have

known of many cases of dyspepsia deriving the very greatest benefit from the latter.—Health.

Sore Throat.

Pain in the throat is the usual accompaniment of all acute throat inflammations. It is accentuated by swallowing or by use of the voice.

Sore throat is a term broadly applied to all the various degrees of discomfort of this region, from mere dryness and stiffness of the throat to states of acute pain, which may render swallowing well-nigh impossible.

A dry, burning sensation is the usual characteristic of pharyngitis—an inflammation of the region above the soft palate and behind the nose.

Acute, lance-like pains shooting upward toward the ear and down the neck usually accompany tonsillitis. When the tonsillitis is accompanied by the formation of pus—quinsy sore throat—the pain is throbbing, deep-seated, and much increased by any muscular movement of the throat; such, for example, as is involved by swallowing, talking or chewing. The pain of laryngitis is sometimes severe, sometimes not, and is always accompanied by hoarseness or huskiness, or even by "loss of voice."

A very dangerous form of laryngitis sometimes occurs in which more or less exudation into the tissues of this region takes place, and which may later proceed to pus formation. The danger lies in the possibility of the swelling of the vocal cords and adjacent regions becoming so marked as to stop respiration. In this form of laryngitis the pain is always extreme. It is usually absent in the early stages of diphtheria, but may become severe as the disease advances. The general prostration is more marked than in other forms of throat disorders.

Pain in the region of the throat, like that which may affect a limb or joint, is an indication that rest is needed. Singers, public speakers, teachers, auctioneers and others who use the voice almost constantly in their daily work should never ignore this symptom. Disregard of it has been the means of so increasing the congestion of the vocal cords as to set up permanent or chronic conditions extremely difficult, if not impossible, for the physician to overcome.

Dryness and pain are usually relieved by the continued inhalation of steam from a steam kettle.

The object of external remedies is the reduction of local congestion. Thus counter-irritants are used, like mustard, camphorated oil or iodine. Gentle massage is also beneficial. Dry heat applied externally is often used in relieving pain.

In the severe forms of sore throat, however, these remedies are of little avail, and local blood-letting from the membrane of the larynx and also externally must frequently be resorted to. Cases which involve obstruction to breathing require surgical measures.—Youth's Companion.

Cold in the Head.

So-called "colds" are acute infection of the nasal mucous membrane produced by the action of germs constantly present. If the normal vitality or resistance is impaired as by a lowering of temperature below normal, the germs gain a foothold and find a suitable soil for growth. In the process of growth they produce certain poisons or toxins which are absorbed into the system, and produce the symptoms of headache and fever. The irritation of the toxins locally causes an inflammation of the mucous membrane, characterized by swelling and discharge of mucus and pus.

Accordingly, the indications for treatment of an acute infection of the mucous membrane are: (1) Cleansing with mild antiseptics with a small glass douche; (2) relief of headache and fever by appropriate internal remedies. Cleansing may be effected with a solution of Seiler's alkaline antiseptic tablets—one tablet dissolved in four ounces (half a tumbler full) of warm water. Use in a small glass douche—the Birmingham nasal douche is recommended. Cleanse the nose every hour or two. For the relief of the headache and fever, three grain doses of phenacetin every three hours until relieved. Don't use quinine.

Every person who is subject to colds should go to a competent nose and throat specialist and have a thorough examination. There will likely be found a constitutional disturbance of some kind or a chronic affection of the nose and throat which can only be intelligently treated by a physician. The only thing the writer advises the sufferer from chronic nasal disease to do on his own responsibility, is to keep the nose and throat cleansed daily with Seiler's solution. The nose and throat deserve even more attention in this way, as a matter of simple hygiene, than do the teeth.—Popular Science News.

The Duration of Sleep.

One of the most important factors of good health, says the Neuropath, is a sufficient amount of regular sleep. During sleep, the brain and the nervous system recuperate themselves, and both will suffer accordingly if sleep is not sufficiently indulged in. It is certainly not so easy to lay down general rules as to the exact duration of sleep. In grown-up people the need of sleep varies very much. It is influenced by the condition of the body. Several experienced physicians have, however, computed a table of average figures, and individual parties should try to train their personal needs for sleep accordingly. Of course, it should be well understood that the length of sleep should be computed according to the age of each individual.

Rheumatism Cures.

The New York Sun has compiled a list of no fewer than 1437 different "cures" for rheumatism. There is no disease which seems to battle the medical faculty more than this. It takes so many different forms and the knowledge of its causes is so indefinite, and on some points so much disputed, that though the majority of human beings are sufferers from it, sooner or later, and there are numerous remedies, experience does not show which way to turn for relief. What appears to help one case will aggravate another.

Just a second, please—

To tell YOU that

Painkiller

(FERRY DAVIS)

is an infallible cure for
Cramps, Colic and all
Stomach Complaints.

For 25c.—a large bottle

vate another. The lemon cure might help some of whose system needed more acid, whereas the alkaline treatment might simply make the conditions worse.

Ingrowing Nail.

Tardif says that he has been able to cure all cases of ingrowing nail without recourse to the knife. He proceeds as follows: With a flat probe, or a match, he slips a bit of cotton between the edge of the nail and the inflamed flesh. Another strip of cotton is put along the outer margin of the ulcerated area, and the space between these two strips of cotton, and which is occupied by the ulcer, is thickly powdered with nitrate of lead.

The whole is covered with cotton and the toe is bandaged. The dressings are repeated the following day, and every day until the ingrowing edge of the nail is plainly visible. Usually four or five dressings suffice. Then, with patience, the edge of the nail is lifted away from the flesh, and a bit of cotton is introduced under it to keep it up. As it grows it will gradually take its proper position above the flesh, this having in the meantime shrunk and shriveled by reason of the applications of lead nitrate. The lead is to be discontinued as soon as it appears that the exuberance of the fleshy bed of the nail has been overcome. The difficulty seldom recurs. If this does happen it is necessary to repeat the treatment from the beginning.—Anjou Medical.

How to Take Care of Your Eyes.

An authority on the care of the eyes emphasizes the fact that in this day of reckless misuse of the eyesight, the rules laid down must consist of warnings regarding things to be avoided. Here are some of the main rules for the care of the eyes, which should be of interest to everybody:

First: Do not use the eyes in poor light, or too far from a good light. Second: Do not have the body in the way of the light, nor the light directly in front. One is almost as bad as the other. The light should fall without interruption from one side. Third: Do not use the eyes much when recovering from illness, or when very tired. Fourth: Do not use the eyes when they become watery, or show signs of indistinctness of vision. Fifth: Do not work with head bent over. This tends to gorge the vessels of the eyes with blood, and so produce congestion. Sixth: Do not read lying flat on the back or reclining, unless the book is supported in the same relative angle as position when erect. This is so difficult to do that it is better not to attempt it. Seventh: Do not go a single day without glasses after you should put them on.

How to Buy a Pair of Gloves.

In buying gloves there are more important considerations than their color and the number of buttons to be considered. Black gloves are generally less elastic than white or colored ones, and cheap grades are dear at any price.

Dressed kid usually retains its freshness longer, and is more durable than suede. The best and most serviceable kid is soft, yielding and elastic.

A glove so small that it cramps the hands and prevents grace of motion gives poor service. Short-fingered gloves are ugly, and certain to break soon between the fingers, if not at their tips.

The way in which a glove is first drawn on and shaped to the hands has much to do with both its beauty and durability. Unless you have ample time, do not have them fitted at the shop, but at leisure draw them on as here recommended, and, if possible, wear them half an hour without closing the fingers.

When the hands are at all moist, they should be powdered. Insert all the fingers and work them on evenly, leaving the thumb loose until the fingers are fully in place. Then insert the thumb and work the glove down smoothly over the hand.

In buttoning a glove, the greatest strain comes upon the first button, so before attempting to fasten this, button the others, commencing with the second one, then the others, lastly the first.

Do not begin at the tips of the fingers to pull them off. Turn back the wrists and draw them off inside out, but on no consideration leave them in this shape or roll them. Turn them right side out, smooth lengthwise, and put away by themselves with a strip of flannel under and between them.

A glove made of wood, celluloid or silk, only by the shape of a finger should be given every sewing basket, as well as glove thread in a variety of colors and shades. The seams of gloves should be restitched as soon as a stitch breaks, using fine cotton, never silk.

To mend a tear, buttonhole stitch closely around the edges once or twice, as the size of the rent may require, and then join the edges together.

Save the buttons from discarded gloves to replace lost ones. They often match perfectly.—New York Journal.

Domestic Hints.

TOMATO BEEF.

Sprinkle a row of beef from the round with salt, pepper and oil. Put a layer of meat in a baking dish, over it put a layer of canned tomatoes or sliced fresh tomatoes. Scatter bits of butter over it. Cover with a layer of beef, then tomato. Make the top layer of buttered crumbs. Bake slowly for one hour.

FRUIT ICE.

To one cup sugar and one cup cold water, and boil until thick and stringy. Remove and put in a cold bowl until cool, then place on ice till ice cold. Have ready the fruit to be used—peaches or berries crushed with a little sugar. Whip into the syrup and freeze.

FRIED SWEETBREADS.

Parboil and when cold dip them in beaten egg and cracker crumbs, sprinkle salt over them and fry in hot fat. Take one tablespoonful of this fat, and then stir into it one tablespoonful of flour, then set the pan back a little and add gradually one cupful of milk, stir until smooth. Season with salt and pepper, a little very finely chopped celery and cook about two minutes. Pour over the sweetbreads.

CREAMED FISH.

Pick cold cooked fish to pieces and remove all the bones. Make a cream sauce with two tablespoonfuls each of butter and flour, two cups of milk and a dash of cayenne and one-half a teaspoonful of salt. Beat the egg yolks separately, two cups of berries, 2 cups of flour, one teaspoonful of soda sifted with the flour. Bake as soft gingerbread and serve hot.

BLUEBERRY CAKE.

Half a cup of butter beaten to a cream with half a cup of sugar, one cup of Porto Rico molasses, one cup of thin sour cream or milk, three eggs, the whites and yolks beaten separately, two cups of berries, 2 cups of flour, one teaspoonful of soda sifted with the flour. Bake as soft gingerbread and serve hot.

BOILED ICING.

One cup of granulated sugar, five tablespoonfuls of boiling water, the white of one egg beaten to a stiff froth. Put the sugar and water over the fire and boil until it threads from the spoon; then turn it into the beaten egg, beat briskly for a few minutes, flavor with vanilla, lemon or almond, according to the cake. While the cake is still

warm, sprinkle with flour and spread the icing on with a broad knife.

Hints to Housekeepers.

Lamb can be used in nearly every recipe given for beef. It is especially good for croquettes and makes a very steady sauce even if a bit of gravy or liquid from the matter when setting a roast of lamb away. It requires all the enriching it can have and always plenty of seasoning.

The bathroom chair should be low, softly cushioned, and finished in white enamel. The cabinet for the various toilet articles, liquids, and soaps that are liked should be white, and may conveniently have a door of mirror glass to serve the double purpose of cabinet and looking-glass. It is good news to the average housekeeper that arrangements to become her own bathroom for the summer, while the coal range is out of commission, have been both improved and cheapened. It is possible now to equip a bathroom with this quick water-heating service for a low price, and yet in a way that insures a satisfactory working.

If occasion demands ice cream when nonilk or cream is attainable, the favorite American dainty may still be had by letting butter and water take the place of the usual ingredients. Wash a large tablespoonful of hard butter free from salt. Cream together the yolks of three eggs and one cupful of sugar, add the butter and two cupfuls of water and scald the mixture in a double boiler. When it is near the boiling point remove from the fire and add the whites of the eggs, two teaspoonfuls of lemon juice and the grated peel of half a lemon, and freeze.

Whipped cream on glasses of coffee frappe is a delightful afternoon refreshment. Mix four heaping tablespoonfuls of fine ground coffee with a quart of boiling water and a half cupful of sugar. Cover and let the mixture stand on an asbestos mat on the side of the stove for fifteen minutes. Strain and cool. Then add the stiffly beaten white of an egg, and freeze.

For pork salad one requires left-over lean meat from a tender young pig. The meat can scarcely be distinguished from veal or the white meat of chicken. If the pork has been slightly corned, the flavor will be all the finer. Reject every morsel of browned meat, fat or grease, and cut into tiny pieces. Mix with an equal quantity of chopped celery and serve with mayonnaise dressing, exactly as if you were making chicken salad. You can impart a pleasant and unique flavor to the salad by using equal quantities of celery and crisp apple slices. Slices of beetroot into diamonds or hearts make a pretty garnish for this salad. Before you add a mayonnaise, marinate with a dash of dressing for several hours, serving it in the refrigerator till it is required for use.

This is the time when preparing rough floors for impromptu dancing is frequently needed. Nothing is better for the purpose than paraffine. It should not be cut off in small bits, as is often done, but grated from a coarse grade of wood over the entire floor, afterwards rubbed in by having the floor shuffled over by two or three persons. A dance or two will complete the operation, and given any sort of decent boards to work upon, the result will be entirely satisfactory.

Cake, especially sponge cake or lady-fingers, may be converted into delicious puddings. Where the pudding is to be steamed or baked, cut the cake in fingers or break it into crumbs. If the pudding is to be soaked with wine, have a custard, fruit juice or cream poured over it, if in slices. Rejected lemon meringues, prepared puddings, if generally made a pudding sweeter than is desirable. A good plain pudding is made by putting slices of the stale cake in a steamer, and when moist serving with a spoonful of strawberry or marmalade sauce. It may be covered when cold with hot stewed fruit, and served with cream. Stale sponge cake serves for a foundation for Charlotte russe and cabinet pudding, or if steamed may be covered with strawberries and whipped cream, when it makes an excellent imitation of strawberry shortcake.

Fashion Notes.

The shirt-waist costumes, with plain but stylish shirt-waist hats en suite, have become one of the notable features of summer wearing, and the fabrics used in the making of these useful suits are innumerable. The soft shantung pongee fabrics are prominent, also plain white silks, ducks and mohairs. The polka-dot fabrics are especially patronized for shirt-waist suits, as also a host of the fancy mercerized cottons, simply trimmed with white braid, Irish crochet lace, piped strappings or ornate belt stitching.

The long airy scarfs and sashes, the charming chiffon Marie Antoinette fichus or Charlotte Corday peleries, and the elegant variety of lace yokes and collars, impart an appearance of uncommon distinction to the beautiful black, in tinted gowns now worn at the most fashionable summer resorts. With some of the transparent scarfs are worn handsome gowns of ecrú batiste, showing stripes of East Indian embroidery, alternating with wider stripes of ecrú guipure. One model included in a bridal trousseau was made over a trained princess slip of delicate cream-green tulle. Sleeves of the stripe reached to the elbow, and from there a fanciful puff of the batiste extended to the wrist. For the neck and shoulders, a wide, white, lace-trimmed collar, arranged in a fan-like shape, alternating with bands of lace and embroidery.

For coaching, the races, and like uses are worn skirts and matching boleros made of a firm pattern of Irish guipure mounted over white liberty silk, or tinted peau de soie. A noticeable costume of this lace in cream color was worn over a slip of lilac-green silk, and en suite were gloves, parasol and cream Tuscan straw hat with decorations of green velvet bands, green plumes and cream lace chapeau.

For midsummer wear, outing gowns and costumes, under which head are included suits for outdoor amusements of all kinds, require to be made of much lighter fabrics than those for the sports of the summer. Among these are cool wash silks, linens, Cheviot suitings, Madras fabrics, pongees of various soft neutral tints, and also dyed in a number of pretty summer shades, and for certain uses very stylish utility costumes are smartly made of black and white checked or mercerized ginghams, which look very much like shepherd's-check silks. These suits are very simply made, the waist without lining, or with a loosely, sleeveless lining of the very thinnest of white muslin, and the skirt, which is very recently shown at one of the imposing houses had the sailor-collars, strappings, belt and three circular skirt flounces edged with white linen. The collar was further decorated with a row of white linings, and the skirt with a row of V-shaped neckpiece and standing collar of Irish point embroidery.

An attractive yachting costume is made of white linen with stitched bands of linen down the front and outlining the flounce at the back. The waist is part blouse and part jacket, and is worn over a pink silk shirt waist laid in flat inch-wide plaits, each plait covered with five rows of white silk stitching. The blouse jacket is slashed at intervals to show the silk shirt waist, and when it is slashed it is together by narrow straps, which are fastened down with small gold buttons. Apropos of buttons, they are now used on day costumes of every description, and occasionally on elegant evening gowns, finished with Louis coats of flowered satin, or with plain satin coats with broadened waistcoats, or those of costly lace.

Among the shirt waists and blouses of wash flannel so necessary for cool days on the beach or in the mountains, are those in Saxony, Scotch, and the finest French weaves, the newest designs, including cream white, English rears, basket weaves, silk cord stripes, pin and coin dots, with fagot-stitched strappings the color of the dot, also fine-textured serge in Gibson style, against which Norfolk waists of voile or French etta cloth, made with double-breasted fronts and fastened with large white mother-of-pearl buttons.

Russian blouses and short open Etons of pin-checked white silk or satin, embroidered in gold, silver or colored silks, and lined with pale cream, pink or sea-green satin, are much worn at all the fashionable summer resorts, and with these very large hats of fancy straw or braided rushes, garlanded with life-size orchids, tulips, poppies or roses. Black roses with deep yellow stamens and bright green velvet leaves are very fashionably worn on hats of black or burnt Panama straw; also large green gooseberries, lemons, lemons, tomatoes, cherries, strawberries, currants, hazel nuts, grapes, blue clusters of rhododendrons, azaleas, in fact, many

fruits and every description of blossoming plant have been imitated to adorn summer headgear for both day and evening wear.

The World Beautiful.

Lillian Whiting in Boston Budget.

"A reasonable service of good deeds, Pure living, tenderness to human needs; Reverence and trust and prayer for light to see The Master's footprints in our daily ways, And the calm beauty of an ordered life Whose very breathing is unworried praise."

"The key to the interpretation of the Divine message is found in the word Now. There is no past in the Divine Mind—no future in the Divine Economy. To each one thing is forbidden,—disobedience to the Divine Will. Death ensues in the soul when it is no longer desirous of union with the Divine Will. But to desire ardently that which God wills, and to give one's self even to death, to fulfill God's will,—is life. For 'he who will find his life shall lose it,' which means that he who seeks his own, in opposition to the Divine Will, shall perish. And he who loathes his life shall find it," which means that he who gives himself to the death to fulfill the Divine Will shall have—may, already hath—eternal life."

The stress and storm of life fade away very largely before the power of simple love and good will, which is the key to all situations and the solution of all problems. "How shall I seem to love my people?" asked a French king of his confessor. "My son, you must love them," was the reply. When there is genuineness one does not need to engage in the elaborate and arduous labor of counterfeiting qualities and manufacturing appearances, and it is really easier to say nothing of its being a somewhat more dignified process—to be what one wishes the world to regard him, than it is to endeavor to merely produce the effect of it.

Dr. Holmes had a bit of counsel for those who went to sea, that they should not waste any energy in asking how they looked from the shore, and the suggestion is not an infelicitous one in its general application to life. It is quite enough for one to keep his feet, as best he may, set on the upward and onward way, without concerning himself too much as to the effect of his figure in the landscape. The energy that goes to waste at undignifying is always wasted, while that which expends itself on the legitimate fulfillment of tasks contributes something of real importance to life.

And so—any significance of achievement seems to be exactly conditioned by the degree of energy involved—the finer the energy, the more potent the achievement. It would seem as if all the noble order of success hinged on two conditions,—the initial one of generating sufficient energy, and the second that of applying it worthily.

The present age is characterized as that in which new forms of force appear,—in both the physical and the spiritual realms of life. What a marvel is the new chemical force thermite, of which the first demonstration in America was made only last May, by the Columbia University Chemical Society in New York. Here is a new force that dissolves iron and stone. An extremely interesting account of this new energy appeared in the New York Herald for July 13, in which the writer vivifies the subject by saying of thermite:

"Under its awful lightning blaze granite flows like water and big steel rails are welded in the twinkling of an eye. . . . The interior of Mount Pelee, whose fiery blast destroyed St. Pierre in a moment and crumbled its buildings into dust, would be cool compared with this temperature of 'thermite.' It would melt the White Mountains into rivers of liquid fire. Nothing could withstand its consuming power. . . . And what makes this stupendous force? The answer seems incredible as the claims for the force itself. It is produced by simply putting together a mixture of aluminum filings and oxide of chromium, both metallic, and yet, as by magic, a mighty force is instantly created."

The writer describes the discovery and processes at some length, and adds: "Such are the wonders of chemistry suggesting Emerson's claim, 'Thought sets men free.' By a simple process—name applied to metal filings, iron bars melt and vaulted dungeons flow like water."

The article closes with this wonderful paragraph:

"By chemistry the pale-faced modern Faust, working in his laboratory, makes metals out of clay and many marvelous combinations. What they will do when skilfully proportioned and exposed to heat, the story related gives a hint,—accounting, as it were, for the forces at work in space, creating heat and electricity, making suns burn with indescribable fury, colliding with peaceful planets, mixing their metals in a second of time,—and new worlds seem to leap into vision, balls of molten fire sweeping through space; vast cyclones of flame, making Pelee a cold-storage vault by comparison. All this seems simple enough as explained by modern chemistry, given men unlimited power, making them gods, as it were, to first master themselves and then the universe."

This description of the new force, whose intensity is almost beyond realization, is not less sublime than is the energy described; and it lends itself, with perfect rhythm of correspondence, to analysis on the side of the spiritual forces of life. "Cast thyself into the will of God and thou shalt become as God" is one of the most illuminating of the mystic truths. The "will of God" is the supreme potency, the very highest degree of energy, in the spiritual realm, which is the realm of cause, while the outer world is the realm of effects. Now if one may so ally himself to the divine will as to share in its all-conquering power, he partakes of creative power and eternal life, now and here, just in proportion to the degree to which he can identify his own trend of desire and purpose with this Infinite will. This energy is fairly typified in the physical world by the stupendous new force called thermite, and it is as resistless as that attraction which holds the stars in their courses and the universe in their solar relations.

The Brunswick, Boston.

Gems of Thought.

Enjoying each other's good is heaven begun.

—Lucy C. Smith.

Intercessory prayer might be defined as loving our neighbor on our knees.—Charles H. Brent.

Try to make an instantaneous act of conformity to God's Will, at everything which vexes you.—Edward B. Pusey.

Knowledge is a call to action; an insight unto the way of perfection is a call to perfection.

—J. H. Newman.

If you tell the truth, you have infinite power supporting you; but if not, you have infinite power against you.—Charles George Gordon.

The sins by which God's Spirit is ordinarily grieved are the sins of small things—luxuries in keeping the temper, slight neglects of duty, sharpness of dealing.—Horace Bushnell.

The labor of the baking was the hardest part of the sacrifice of her hospitality. To many it is easy to give what they have, but the offering of weariness and pain is never easy. They are, indeed, a true salt to salt sacrifices withal.—George MacDonald.

You feel in some families as if you were living between the glasses of a microscope. Manner, accent, expression, all that goes to make up your "personality," all that you do or leave undone, is commented upon and found fault with.—H. Bowman.

Our Lady Readers will Recognize This Picture.



A Fac-Simile of the One Printed on the Wrappers of

Dobbins' Electric Soap

The soap their mothers used to delight in praising. Dobbins' Electric is the same pure article; as when it was first made and cost up to 14 cents a bar. If your clothes do not get as long as your fingers, if your hands are not as soft as your face, if your skin is not as pure and made of boric acid and the finest oils, if your hair is not as soft and preserves them, it is the greatest disinfectant in the world. Sold by all grocers.

DOBBINS' SOAP MANUFACTURING CO., Sole Manufacturers, Philadelphia.

The Horse.

The Boralma-Lord Derby Race.

The big and much-discussed match race between Boralma and Lord Derby came off, as scheduled, at Charter Oak Park, on Saturday last, Aug. 2, and proved a keen disappointment to the thousands of spectators assembled to witness the race, and especially so to the many friends and admirers of Mr. Lawson's great trotter, Boralma.

After winning the first heat and losing the second, Boralma stepped on the quarter of his high front foot early in the third mile, severely injuring himself, and had to be drawn, leaving Lord Derby to win the \$40,000 wagered on the event for his owner, E. E. Smathers of New York, and forty per cent. of the gate receipts, which, it was estimated, would amount to \$10,000. As the admission was \$1 and there were probably not more than ten thousand people present, which seems a liberal estimate, the winner's share of the gate receipts will not amount to more than \$4000. However, \$24,000, \$20,000 of Mr. Lawson's money and the gate receipts, is quite a tidy little sum to pick up in one race, and Mr. Smathers won many thousands more in side bets. The amount of money involved was the largest ever contested for by trotters in a match race.

With the two great contests which the trotters put up against each other last season fresh in mind, and the reports of their work, the public had ample reason for expecting to see at least a fairly well-contested race on Saturday.

There were some vacant chairs in the grand stand, for these cost an extra \$2, and only well-filled purses could afford them, but those that were taken were occupied by handsomely gowned women with their escorts. The bleachers were fairly jammed, while the lawn in front of the grand stand and bleachers was packed with many thousands of spectators. Mr. Lawson himself was not there, but the family was represented by his son, Arnold Lawson.

Mr. Smathers was present in person. Hon. Benjamin F. Tracy, ex-Secretary of the Navy, lover of the trotter, successful breeder and one of the best informed horsemen, shared a box with Albert C. Hall and Hamilton Busbey. James Butler, the prominent New York breeder, and Secretary Horace Wilson of Empire City Park and Secretary C. M. McCully of Brighton Beach occupied a box. W. H. Gocher of N. T. A. was another onlooker.

Among the prominent amateurs present were Mr. C. K. G. Billings, Harry Darlington, W. S. Steele, Pittsburg, A. E. Perren, Buffalo.

The judges of the race were Messrs. A. E. Perren, Buffalo, N. Y., C. K. G. Billings, Chicago and New York, Alex. Harbison, Hartford, Frank Walker, starter.

In the preliminary work-outs Lord Derby breezed a mile in 2:19, and looked and acted every bit of his winning form last season. Geers had the mount behind him.

Boralma, with Marsh up, stepped a mile in 2:20, coming through the last quarter in thirty-two seconds. The critics didn't like his gait. He showed a decided inclination to hitch behind.

Popular as is Ed Geers, the most applause was accorded Boralma as the two horses were paraded on the stretch, and had the contest been decided by popular vote it was evident that victory would easily rest with the horse that sported the Lawson colors. The betting was rather light for an event so important, and little money was wagered at odds of \$50 on Lord Derby to \$30 on Boralma.

In the toss for position, Lord Derby won the pole. They were sent away on the second score to a very even start. Geers was in no hurry with Derby, and he allowed Marsh to rush Boralma out in front and take the pole going into the turn, opening a gap of two lengths over to the quarter in 32½ seconds. The positions were the same to the half in 1:04. Through the third quarter Derby began to close on Boralma and was only a length away at the six-furlong pole, which was reached in 1:36. Marsh swung wide into the stretch with Boralma, and Geers set out for his drive. Derby was overhauling the chestnut gelding, but as he reached his wheel at the long distance he went into the air on a sprawling break, and a cheer broke out from the friends of Boralma. Marsh eased back on his horse and the gallant trotter jogged home, an easy victor, in 2:08.

It now looked as though a great contest was sure to result, and perhaps after all Boralma would be able to avenge his two defeats of last season, and his friends were both jubilant and hopeful, but there wasn't much change in the betting. Bets were freely offered that 2:07 would be beaten before the race was over.

Both horses cooled out well, but when they appeared for the second heat the second heat it was plain that Boralma was not so good. He scrambled and hitched, and starter Walker tried them out four or five times before he gave the word. This heat was about the same as the first to the stretch, Boralma leading in the quarter by two lengths in 32½, by the same margin to the half in 1:05, and had a length the best of Derby at the third quarter in 1:37. Once straightened out in the stretch, Derby closed on Boralma, got to his wheel at the long distance. Marsh lifted his horse, then drew his whip. Boralma went to a break, and it was all over, Derby coming home an easy winner in 2:09½.

It was now painfully clear that a contest that promised so much would after all be no contest at all.

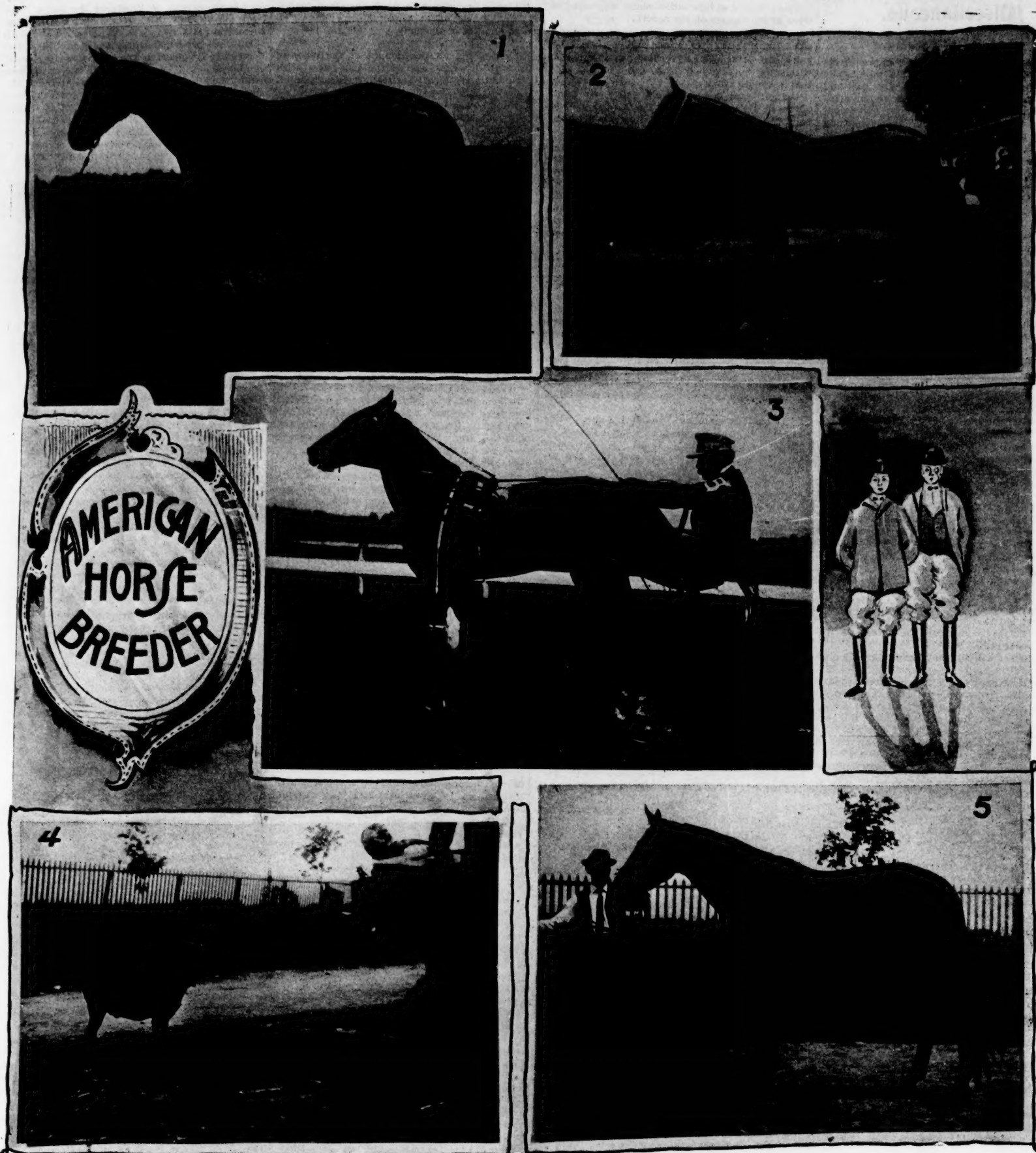
The horses got the word on even terms the third heat, and Marsh made no effort to head Derby going away. Just as they swung into the turn Boralma made a plunging break, but Boralma soon got him back to his stride. It is probable that this was when he cut himself, for the gap of three lengths that Derby opened at the quarter he never perceptibly reduced, though the time was slow, the quarter in 35, half in 1:08½, three quarters in 1:40½, and when Boralma made two more breaks in the last half, Geers had to pull back to a road gate to let him inside the flag. The heat was in 2:18½.

When Boralma returned to the cooling-out paddock, blood was gushing from a severe cut in the pastern and contiguous to the tendon, and the farm veterinary, Dr. Lee, after examining it, could not satisfy himself whether the tendon itself was not injured.

By the consent of the judges Boralma was drawn, and Derby jogged over the course the fourth heat in 3:44, after which Mr. Smathers consented to let Geers drive Derby a fast exhibition mile.

Accompanied by the Dreamworld Farm runner, that had been Boralma's prompter, and which was driven by George Spear, Geers stepped Derby a well-rated mile in 2:08, the official time by quarters being 32½, 1:05, 1:36½.

Geers said to the writer during the progress of the race that Derby was never more



1. Silver Glow, 2.16 1-2. 2. Debut, 2.15 3-4. 3. Locanda, 2.11. 4. Joe Pointer's Mascot. 5. Joe Pointer, 2.09 3-4.

SOME NEW ENGLAND CIRCUIT WINNERS.

fit to go the race of his life, and, if necessary, he thought he could drive him a mile in 2:06, and this, be it remembered, over a track that was soft and soggy underneath from the recent rains.

Mr. Smathers said after the race that he was pleased, of course, to win the money at stake, but he didn't feel that much glory went with it, for it was plain from the first that Boralma was not at his best. He expressed much sympathy for Mr. Lawson at the mishap to his gallant trotter, and hoped that Boralma would again be able to win fresh laurels for his owner.

Three other races helped to fill in the afternoon, all of them two in three events. The first, the 2:09 pace, had only three starters, and Joe Pointer came within an ace of defeat, but not until he had shown a great flight of speed. He was the favorite for the race, and the first heat he won apparently handily enough in 2:08½, lowering his record by 1½ seconds. The fractional time was .32, 1:04½, 1:37½.

The second heat Spear got after him in earnest with the old and seasoned campaigner Sphinx S., and carried him to the quarter and half at a heart-breaking pace, .30½ and 1:01½. After this it took 34½ seconds to negotiate the next quarter, and Pointer led into the stretch by a length. Both were under a whipping finish through the last eighth, and both came home staggering,

Pointer half a length in front. The judges thought Pointer swerved and interfered with Sphinx S. in the stretch, and they set him back to second place, awarding the heat to Sphinx S. Pointer's time was 2:07½ and the heat in 2:08.

It only postponed Pointer's ultimate victory, for after another just as hard and bitterly fought contest right up to the wire Pointer got the verdict by three parts of a length in 2:09½.

Don Derby won the 2:11 pace off hand, and The King made the 2:14 trot another straight-heat victory.

SUMMARIES.

Charter Oak Park, Hartford, Ct., Aug. 2, 1902—2:09 pace, two in three. Purse, \$1000.

Joe Pointer, b. h. by Star Pointer; dam, Laura Bell, by St. Mark (McClary)..... 1 2 1 Sphinx S., ch. g. by Sphinx (Spear)..... 2 1 2 Diavolo, br. g. by King Turner (J. O'Neill)..... 3 3 3 Time, 2:08½, 2:08, 2:09.

Same day—2:11 pace, two in three. Purse, \$1200.

Don Derby, ch. h. by Charles Derby; dam, Bertha, by Alcantara (Kelly)..... 1 1 Annie Leyburn, b. m. by Naval (Potter)..... 2 2 E. E. Knott, ch. g. by Alexander (Sunderlin)..... 3 3 Onio, b. m. by Onio (Curry)..... 4 4 Anokim, blk. g. by Ambassador (Spear)..... 5 5 Time, 2:08½, 2:07½.

Same day—Match race, \$50,000, all to winner, three in five.

Lord Derby, b. g. by Mambrino King; dam, Claribel, by Hamlin's Almont Jr. (Geers)..... 1 1 Boralma, ch. g. by Boral (Marsh)..... 2 2 dr Time, 2:08, 2:09½, 2:18½, 3:44.

Same day—2:14 trot, two in three. Purse, \$1300.

The King, b. g. by Clay King; dam, Redalia, by Red Wilkes (Kelly)..... 1 1 Marion Wilkes, b. m. by Hawthorn Wilkes (M. Demarest)..... 2 2 Texas, gr. m. by Sentinel Wilkes (Rennick)..... 3 3 Mrs. Brown, b. m. by Hinder Wilkes (James)..... 4 4 Limerick, b. g. by Prodigal (J. O'Neill)..... 5 5 Ida Highwood, b. m. by Highwood (Spear)..... 6 6 Cole Direct, blk. h. by Direct (Kelly)..... 7 dr Time, 2:13, 2:13.

New England Circuit.

No. 1 in our eighth page-illustration is a likeness of the trotter Silver Glow, with which trainer James Golden surprised the talent at Dover, N. H., on the 8th inst., by winning the 2:21 trot and giving him a record of 2:16 in the fourth heat.

Silver Glow is a bay gelding, bred by Morris J. Jones, Red Oak, Ia., and foaled in 1897. His sire is Potential (2:29½), the richly bred young stallion owned for several years by W. R. Janvier, proprietor of Silver Springs Farm, Ticonderoga, N. Y. Potential was got by Prodigal (2:16), and his dam, Helen T., was a full sister of Arion (2:07½), being by Electioneer, out of Manette, by Natwood (2:18½).

The dam of Silver Glow is Buda (the dam of Paotulus, 2:12½), by Tramp, a son of Gage's Logan, by Rysdyk's Hambletonian, and his second dam was Burrie dam of Brocade, 2:28, by Captain (2:28), a son of Billy Denton, by Rysdyk's Hambletonian, making

Silver Glow quite closely inbred to the Hambletonian strain through his dam.

Silver Glow started in two public races last year and won them. The first was at Westport, N. Y., Sept. 4, which he won in straight heats, time 2:34, 2:30½, 2:28½. His next race was at Plattsburg, N. Y., Sept. 10. Silver Glow lost the first heat of this race to Miles in 2:23½, but he won the next three in 2:22½, 2:21½, 2:21½. Mr. Charles Sanders of Salem, an active member of the Gentlemen's Driving Club of this city, bought Silver Glow last fall and placed him in trainer James Golden's charge. Mr. Golden first started Silver Glow at Readville on the 2d inst., but was outside of the money there. He is an exceedingly well-bred young horse, and, barring accidents, is liable to lower his record considerably before he reaches his limit.

No. 2 is a likeness of Debut, a compactly made, smoothly turned bay stallion about fifteen hands high, bred by H. C. McDowell & Son, Lexington, Ky., and foaled in 1890. His sire was Dictator, the Hambletonian-Seely's American Star stallion, that was full brother of Dexter (2:17½), and had sufficient merit to be the progenitor of several world's record breakers, including Jay-Eye-See (2:10), Paotulus (2:13½), Directum (2:05½), Nancy Hanks (2:04), etc.

The dam of Debut was Samover (2:28½), by King Rene, a noted prize-winning son of Alexander's Belmont 64. The second dam

of Debut was Carrie (2:24), the dam of Farandole, 2:27, by Volunteer 55, and his third dam was by Seely's American Star. Debut was owned for some time by Mr. F. E. Perkins of Providence, R. I. The horse was trotted some in 1899, and took a record of 2:24 on Sept. 21 of that year at Narragansett Park.

Debut was not raced again until 1899, when he started once. In 1900 he started twice, and in 1901, last year, started three times, but did not win a heat in those three seasons. His first start this year was at Readville, July 2. He lost the first heat to Miss Viola in 2:20½, but won the next two in 2:13½, 2:17½. He started at Granite State Park, Dover, N. H., July 8, lost the first heat to Andrew Moore in 2:18, but won the next three in 2:18½, 2:17½, 2:18½. His breeding would indicate that he is as game as the gamest. He is handled and was driven to his record by Mart Demarest.

No. 3 is a likeness of the game, little trotting-bred pacer Locanda. A bay stallion of racy, blood-like conformation, about fifteen hands in height, bred by C. W. Williams, Galesburg, Ill., and foaled in 1897. His sire is Allerton (2:08½), by Jay Bird son of George Wilkes (2:22). His dam is Kathrina (dam of Junera, 2:10½), by Alyone (2:27); second dam, Katie Jackson (2:25½), by Almont 33, etc.

Locanda is owned by Mr. J. Brodline of this city, who bought him as a three-year-old, paying \$3500 for him. It was remembered correctly. Mr. Brodline, though nearly fifty pounds overweight, trains and drives Locanda himself. He started him several times as a three-year-old, won several good races with him, gave him a record of 2:16½, and proved that he had gameness and endurance equal to his speed.

No. 5 is a likeness of the successful pacer Joe Pointer, Star Pointer. A description of this horse and some facts concerning his dam were given in last week's BREEDER. The following letter, from one who has always known Joe, has just come to hand:

EDITOR AMERICAN HORSE BREEDER:

You have been misinformed about Joe Pointer in some things. I am a friend of Mr. Steighner's, and was with him when he bought his dam, Laura Belle, of Mr. Frank Mulr, near Lexington, Ky. She is not by St. Mark, a son of Solicitor, but by St. Mark, he by St. Elmo, and he by Alexander's Abdallah. Laura Belle's dam was by Mambrino Patchen.

You say Joe Pointer started in six races and won five of them. The fact is he never lost a heat. While Mr. Steighner owned him he started him in two races as a three-year-old, and won them both in straight heats, taking a mark of 2:30 in the first one and 2:29 in the last one. The first race was at Kittingan, Pa., and the other at Butler, Pa.

I have known Joe Pointer ever since he was foaled, and he always was a fast colt; saw him step a mile in 2:24 as a two-year-old, and a half in 1:10, over a half-mile track; in fact, he never saw a mile track until Dave McClary got him. He worked a mile over the Butler track last season in 2:23, a half in 1:06. Mr. Steighner gave him all his work, and he was never known to make a break or mistake of any kind.

Evans City, Pa., July 20, 1902.

The author of the above has our thanks for the information. Joe has started in five races this year, has won all of them, and has lost only one heat. His record, 2:09½, was made in the second heat at Dover, N. H., July 9. He is a stout, rugged, young horse, and is liable some day to get a mark close to two minutes.

Gentlemen's Driving Club Matinee.

The matinees of the Gentlemen's Driving Club of Boston improve as the season goes on, and that of Wednesday last was not only the best of the summer, but one of the best that the club has ever held. There were twenty-one starters in the five classes on Wednesday, an average of over four to each class. The racing was keen and some of the finishes close and exciting. There was, too, a larger attendance of spectators than at any of the previous matinees.

The surprise of the day was the splendid showing made by President Bigelow's chestnut gelding Red Cliffe, who was skillfully driven by Mr. Farmer. He won Class 4, and made the best time of the day in a race. He was beaten the first heat in 2:18½, and looked to be all out, but he came back and won the next two in 2:15 and 2:14½. This event was *par excellence* the best race of the day.

That good and consistent little trotter, Ben Wilkes, owned and driven by Mr. George A. Graves, fought it out to the finish of every heat. He went away in the lead in the opening heat, and led the stretch, with Lottie Fallis second. The mare broke at this point, and Clint Cary, who went away on a pace and got tangled up on the first turn, losing several lengths, but stepped fast through the middle half, got to Ben Wilkes in the stretch, and in a driving finish just managed to nose him out.

But as Wilkes had performed at the prescribed gait all the mile the judges awarded him the heat and placed Cary second.

The second heat was about the same to the stretch, where Lottie Fallis again went to a break, but Mr. Farmer had Red Cliffe well up to the leaders, and he set sail for Wilkes, overtook him half way up the stretch, and in a brilliant finish beat him by a length in 2:15.

Ben Wilkes showed the way past the half, with Lottie Fallis second, and when the third heat was on, Lottie Fallis drew up on even terms with Ben Wilkes, and they stepped like a double team to the stretch, but Red Cliffe shook off his startling little rival a distance from home, and he had an open length to the good as he came to the wire in 2:14½. Lottie Fallis, owned and driven by Mr. Arthur Alley, trotted level all the way this mile, and got the place.

Clint Cary hit himself in the first heat and showed a bit lame in the second, and Mr. Hall drew him after this heat.

Mr. G. A. Thayer secured his first blue ribbon in a most creditable performance with Timberlake, who defeated a strong field, including Jack Bowen, Burlington Boy and Armilla, one of last week's winners.

Mr. Litchfield won his second blue ribbon of the season with the brown gelding Graphic, stepping the second mile in 2:21, and Kentucky Star, Mr. Belledieu's bay gelding, defeated Mr. George Hall's bay gelding Arius in straight heats in 2:18½ and 2:16½. It was a very pretty contest.

Mr. John O'Connor drove Temple Wilkes a mile in 2:11 to wagon, the first quarter in 33½, half in 1:06.

SUMMARIES.

Gentlemen's Driving Club Matinee, Readville, Mass., July 30, 1902—Class 1, trotting.

Nolah, ch. m. (Mr. B. Pope)..... 1 1 Rose Autograph, ch. m. (Mr. G. Litchfield)..... 2 2 Charlie King, blk. g. (Mr. F. Leonard)..... 3 3 Time, 2:36, 2:34.

Same day—Class 2, trotting.

Timberlake, b. g. by Alfred G. (Mr. G. A. Thayer)..... 1 1 Jack Bowen, b. g. (Mr. W. D. Hunt)..... 2 2 Authentic, b. g. (Mr. R. G. Litchfield)..... 3 3 Armilla, br. m. (Mr. W. B. Farmer)..... 4 4 Burlington Boy, ch. g. (Mr. A. C. Aldrich)..... 5 5 Ida Sultan, b. m. (Mr. G. S. Wellman)..... 6 6 Time, 2:20, 2:19½.

Same day—Class 3, trotting.

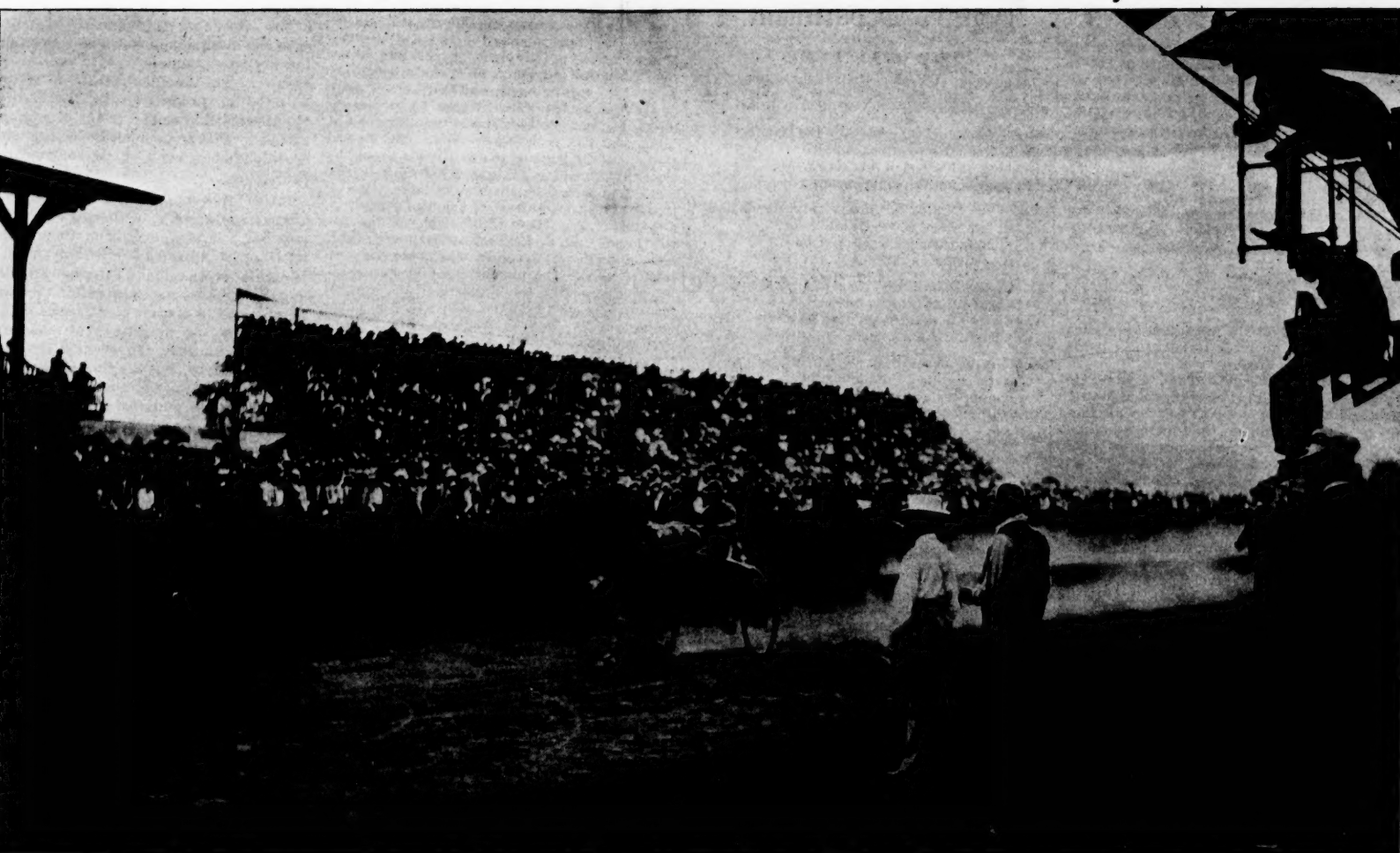
Graphic, br. g. by Autograph (Mr. G. Litchfield)..... 1 1 Imogene, blk. m. (Mr. W. B. Farmer)..... 2 2 Susie K., b. m. (Mr. H. C. Belledieu)..... 3 3 Bonnie Sid, br. m. (Mr. A. C. Aldrich)..... 4 4 Keryx, b. g. (Mr. S. H. Blodgett)..... 5 5 Time, 2:24, 2:21.

Same day—Class 4, trotting.

Red Cliffe, ch. g. by Honor (Mr. W. B. Farmer)..... 1 1 Ben Wilkes, blk. g. (Mr. G. A. Graves)..... 2 2 Lottie Fallis, b. m. (Mr. A. H. Alley)..... 3 3 Clint Cary, b. g. (Mr. F. G. Hall)..... 4 dr Time, 2:18½, 2:15, 2:14½.

Same day—Class 5, free-for-all.

Kentucky Star, b. g. by Robert McGregor (Mr. C. H. Belledieu)..... 1 1 Arius, b. g. (Mr. George Hall)..... 2 2 Time, 2:19, 2:16½.



BORALMA AND LORD DERBY RACE. FINISH OF FIRST HEAT. BORALMA WINS.